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Agricultural.

STATE SHEEP SHEARING.

Annual Shearing of the Michigan Merino Sheep Breeders' Association.

Fair Attendance of Breeders, and Great Interest Manifested

A Michigan Bred Sheep Beats the Record.

Weight of Fleeces, 41 lbs. 3 ozs., Days' Growth, 364!!

The first annual shearing of the Michigan Merino Sheep Breeders' Association was held on the grounds of the Central Michigan Agricultural Society at Lansing, on Wednesday and Thursday of last week. The attendance was not as large as it should have been, but for a first exhibition it was as good as had been looked for. The entries were quite numerous, and the stock of a very high character. The entries represented most of the leading flocks of the State, but still a number of the oldest breeders did not put in an appearance. The success of the first attempt, however, will undoubtedly have a good effect upon future exhibitions, and next year will witness a decided improvement in the attendance of breeders and the general public. The arrangements made by the officers of the Central Michigan Society for the shearing were excellent, and two of the officers of that society, Messrs. B. B. Baker of Lansing, and J. N. Smith of Bath, deserve special mention for their untiring efforts to make everything pleasant for exhibitors and visitors. The shearing was held in Horticultural Hall, which is well lighted by skylights. The sheep pens were arranged along each side, while the long center platform, with a hand-rail extending around it, made as nice a shearing table as could be asked for. The sheep men in attendance were as jolly a crowd as ever got together, and a pleasant time was never had at any exhibition of the kind. The enthusiasm shown by those present evinced the warm interest taken in the sheep industry, and every time a particularly heavy fleece was announced, each one seemed to feel as happy as though it was from one of his own sheep. This was particularly the case when the weight of the fleece of the ram Diamond was declared to be the heaviest ever taken off a Merino sheep—41 lbs. 3 oz. Every one present cheered and hurrahed for Michigan, and Mr. Short was the recipient of congratulations from every one. Even some of the old veterans, whose names have been known in connection with sheep breeding for the past 30 and 40 years, were as enthusiastic as the younger breeders, and shouted just as lustily. A weighing committee, with the President of the State Association, Mr. C. M. Fellows, as chairman, attended to that important duty, and Mr. W. J. G. Dean acted as secretary. The greatest care was taken to have everything according to rule and perfectly correct.

In another column will be found the official record in full, which embodies a full description of each animal shown. Quite a number were not shown, owing to lack of time, so we give the entries in full below.

C. M. Fellows of Manchester, showed two ram lambs and one three-year-old ewe and two ewe lambs. One of the ram lambs was sired by Mr. Fellows' stock ram Gen. Dix, and the other by Old Rip Van Winkle. The two ewe lambs were also by Rip Van Winkle. A nice two-year-old ram was also shown by him, bred by L. W. Peet of Vermont. This ram was also sired by Rip Van Winkle.

Ypsilanti, and Wm. Radford of Marshall, showed the stock ram Zack Chankler, owned by them in common. He was by Hibbard's No. 1, he by Hooker's Little Wrinkly; dam, a ewe of the Stowell flock.

J. W. Benham, of Homer, showed a ram by Old Banker that sheared a large fleece of light wool of good length of staple and fine quality. It would show a high percentage of cleaned wool.

Brewster & Newbury showed a ram by Van Gieson Bros. Bonaparte, he by Old Bonaparte, the dam being a ewe of the Van Gieson flock. He was not sheared, owing to a lack of time. He is a fine animal, well covered, with a good heavy carcass on short legs. His wool was of good length and quality.

S. S. Brewster also showed a three-year-old ram by J. B. Barker's 65, he by Hooker's Little Wrinkly, his dam a ewe descended from the E. S. Stowell flock.

J. W. Newbury of Hanover, showed a ram bred by Deacon S. James of Vermont, sired by the Curtis James ram, dam a Samuel James ewe. He is a half brother to the Sheldon ram owned by the Messrs. A. A. & F. C. Wood, and Gen. Dix, owned by Mr. Fellows, and is a well-shaped animal, carrying a fairly heavy fleece of good quality.

Mr. Ball showed his old stock ram Bismark, a son of Fremont Jr., and the old fellow was in good shape. Then he showed a two-year-old ram bred by Leslie Moore of Vermont, sired by Old Centennial, dam a Moore ewe, a very fine animal; also two two-year-old ewes from the V. Rich flock of Vermont. One of these cut over 17 lbs. of nice wool.

Mr. R. B. Carus of St. Johns, showed a three-year-old ram sired by Ball's Bismark, dam a ewe of the Ball flock. Also a ewe lamb sired by this ram, with a dense fleece of good length and style.

Mr. D. P. Dewey of Grand Blanc, showed four head, which included his stock ram John L. Hayes, by L. P. Clark, two breeding ewes, and a fine two-year-old ram by Hayes—all of Atwood blood.

Mr. J. H. Thompson showed five head; his stock ram L. P. Clark, now seven years, two breeding ewes and two two-year-old ewes. One of the breeding ewes was sired by Compact, the other by Goliath. The two two-year-old ewes were by the ram Granger. These were all pure Atwoods.

J. W. Thornton, of Romeo, showed three head—a ewe lamb and two breeding ewes. The breeding ewes were sired by Addison, by Old Genesee, and the lamb by a son of Genesee. Mr. Thornton's flock traces to the Taylor flock, and is of Atwood blood.

L. W. & O. Barnes, of Byron, as usual made a fine showing. At the head was their stock ram Monarch, now four years old, by Gidding's Commodore, a Clark ram, dam a ewe bred by Styles of Vermont—Stickney and Robinson blood. The three-year-old ram Eclipse, by a Joseph Stickney ram out of a Moore ewe; the three-year-old ram Prince Bismark, by Star Bismark, dam a John Stickney ewe; the two-year-old ram Chamer, by World Beater, dam a John Stickney ewe; also two yearling rams and two yearling ewes.

A. A. & F. C. Wood, of Saline, showed the handsome ram Rip Van Winkle, by H. Brookins' Rip Van Winkle, his dam by the old Deacon James Ram No. 52. We stated last week that with one slight exception he did not think he had a weak point in him. A look over the shearing record will show how very closely he approaches the standard.

Mr. A. A. Wood showed the yearling ram Junbo, by Hercules, bred by Frank Hall of Vermont; also two ewes, one a three and the other a two year old, and we need not say they were good ones.

Mr. Fred C. Wood showed two rams, a yearling and a two year old, both by the Sheldon ram. Also two ewe lambs from the same ram. They did no discredit to this fine stock ram.

Mr. D. Euler, of Cohoctah, Livingston County, showed four head. These included a ram lamb one-year-old, sired by Moore's 303, dam Rich's 152, which gives promise of developing into a good stock ram. Also three ewe lambs sired by Moore's 303, and from E. Stickney ewes, which shows that Mr. Euler is not afraid of breeding a little closely if the stock is all right.

Mr. S. B. Hammond, of Kalamazoo, showed four head, a ram and four ewes. His stock ram, now three years old, is Peninsula, by Pioneer, he by Sensation, tracing direct to Hammond's Sweepstakes; the dam of Pioneer was an Addison ewe. Peninsula's dam was a Sensation ewe, tracing up to Sweepstakes also. Mr. Hammond's lot was a good one, not carrying very heavy fleeces, but of good length and quality, that would show well in competition if scoured wool was the test.

Mr. H. L. Carrier, of Brookfield, Eaton Co., showed two yearling ewes and two yearling rams. The latter were bred by Mr. F. Fellows, of New York, and sired by his stock ram Dexter. The ewes were from the Brainard flock, of New York. Mr. Carrier has a breeding flock of about fifty head, all registered, and these are new additions to it.

E. Kellogg, of Ocoala, Livingston Co., showed five head. Kellogg's 57, by A. Chapman 28, Chapman by Burnell's Bismark, dam a ewe bred by himself from a

THE MICHIGAN MERINO SHEEP BREEDERS' ASSOCIATION.

Official Record of the Public Shearing, held on the Fair Grounds at Lansing, on Wednesday and Thursday, April 18 and 19, 1883

OFFICIAL RECORD OF THE PUBLIC SHEARING, HELD AT THE FAIR GROUNDS AT LAUSING, ON WEDNESDAY AND THURSDAY, APRIL 18 AND 19, 1883					DESCRIPTION.												REMARKS.	
NAME OF OWNER.	NAME OF BREEDER.	SEX.	NAME OF SHEEP.	NAME OF SIRE.	Label Number.	Age in Years.	Color.	Folds.	Quantity of Oil.	Color of Oil.	Days Growth.	Length.	FLEECE		COVER-ING.	WEIGHT OF FLEECE		
													Density.	Legs.				
L. W. & O. Barnes.	Owner.	Ram	Monarch	Q. C. Rich 102	38	4	♂	4	3	Buff	273	9	4	3	4	3	15 08	
L. W. & O. Barnes.	Owner.	do	Colonel	F. & L. E. Moore's 302	487	4	♂	4	3	White	358	23 1/2	4	3	3	3	13 04	
Backus Brothers.	F. Frank Hall	do	Wood's Jumbo.	Burnell's Hercules	59	4	♂	4	3	White	414	22 1/2	4	3	3	3	12 11	
A. A. Wood.	Owner.	do	Dexter	Dexter	59	4	♂	4	3	White	344	17 1/2	5	4	3	3	13 04 1/2	
H. L. Carrier.	Owner.	do	Dexter	Dexter	59	4	♂	4	3	White	377	18 1/2	5	4	3	3	13 04 1/2	
F. C. Wood.	Owner.	do	General	General	107	4	♂	4	3	White	412	22 1/2	4	4	3	3	12 01	
E. Kellogg.	Owner.	do	General	General	107	4	♂	4	3	White	348	23 1/2	4	4	3	3	12 18 1/2	
C. M. Fellows.	Owner.	do	Stub	Stub	124	4	♂	4	3	White	378	18 1/2	4	4	3	3	12 08	
E. A. Bailey.	A. A. Farnsworth	do	Little Giant	L. P. Clark 110.	297	4	♂	4	3	Buff	337	13 1/2	3	3	3	3	12 01	
A. T. Short.	A. A. Wood.	do	Diamond	M. S. Sheldon 48	178	4	♂	4	3	Buff	363	11 1/2	4	3	4	3	11 03	
E. A. Bailey.	A. A. Bailey.	do	Ninrod	M. S. Clark 107	200	4	♂	4	3	Buff	359	12 1/2	4	3	4	3	12 03	
Ball & Boyden	J. Stickney	do	Fremont Jr.	F. L. E. Moore's 303	102	4	♂	4	3	Buff	364	21 1/2	4	3	3	3	12 09	
F. C. Wood.	Owner.	do	M. S. Sheldon 48	M. S. Sheldon 48	178	4	♂	4	3	Buff	359	12 1/2	4	3	4	3	12 03	
A. A. & F. C. Wood	Owner.	do	Wood's Rip Van Winkle	Rip Van Winkle	96	4	♂	5	11 1/2	5	362	22 1/2	5	5	5	5	12 03	
J. W. Burham	H. C. Brown	do	Burnham's Banker	V. Rich's Banker	142	3	♂	4	3	White	377	22 1/2	4	4	4	3	12 01	
F. C. Wood.	F. C. Wood	do	E. Kellogg's 57.	H. Chapman's 28.	57	4	♂	4	3	White	377	22 1/2	4	4	4	3	12 01	
J. W. Newbury.	S. James	do	Seigel	C. P. Crane	135	3	♂	5	10 1/2	5	332	3-16 1/4	4	4	4	3	12 01	
L. W. & O. Barnes.	A. J. Towner.	do	Eclipse	J. T. Stickney's 240.	59	4	♂	4	3	White	344	13 1/2	5	5	5	5	12 04 1/2	
L. W. & O. Barnes.	W. G. Smith	do	Monarch	Gidding's Commodore.	168	4	♂	4	3	White	384	5 1/2	5	5	5	5	12 01	
Radford & Smith.	J. Evans Smith	do	Star & Jack Chandler	Smith's Hubbard.	64	4	♂	4	3	White	360	25 1/2	5	5	5	5	12 11	
Win. Ball.	C. P. Morrison & S.	do	Star Blomack	Bunnell's Blomack.	40	5	♂	4	3	White	363	3-16 1/4	4	4	4	3	12 15	
D. F. Dewey	E. Townsend	do	John L. Hayes.	L. P. Clark 207	335	5	♂	3	3	White	360	25 1/2	5	5	5	5	12 11	
N. A. Wood	F. C. Wood	Ewe	M. S. Sheldon 48	M. S. Sheldon 48	178	4	♂	4	3	White	414	21 1/2-18 1/2	4	3	3	3	12 04	
E. A. Boyden.	F. & L. E. Moore.	do	F. L. E. Moore 302	F. L. E. Moore 302	431	4	♂	4	3	White	359	2-10 1/2	4	4	4	3	12 18	
H. L. Carrier.	Owner.	do	Dexter	Dexter	59	4	♂	4	3	White	359	2-10 1/2	4	4	4	3	12 18	
J. W. Thornton.	Owner.	do	Macomb	Macomb	113	4	♂	4	3	White	442	3-10 1/4	4	4	4	3	12 12	
H. A. Carrier.	F. C. Wood	do	M. S. Sheldon 48	M. S. Sheldon 48	178	4	♂	4	3	White	359	2-10 1/2	4	4	4	3	12 12	
E. W. Boyden.	F. & L. E. Moore.	do	F. & L. E. Moore 302	F. & L. E. Moore 302	447	4	♂	5	6 1/2	5	414	23 1/2	4	4	3	3	12 03	
L. W. & O. Barnes.	Owner.	do	Eclipse	Eclipse	26	4	♂	4	3	White	271	25 1/2	5	5	5	5	11 14	
L. W. & O. Barnes.	Owner.	do	Monarch	Monarch	38	4	♂	4	3	White	363	40 1/2	4	4	4	3	12 08	
C. M. Fellows.	H. S. Brookings	do	Rip Van Winkle	Rip Van Winkle	363	4	♂	4	3	White	356	23 1/2	5	5	5	5	16 04	
D. Enler.	D. Enler.	do	F. & L. E. Moore's 303	F. & L. E. Moore's 303	3	1	♂	5	7 1/2	4	White	363	23 1/2	4	4	4	13 14	
D. Enler.	D. Enler.	do	7.5 & L. E. Moore's 303	7.5 & L. E. Moore's 303	1	1	♂	5	7 1/2	4	White	363	23 1/2	4	4	4	13 14	
D. Enler.	D. Enler.	do	F. & L. E. Moore's 303	F. & L. E. Moore's 303	3	1	♂	5	7 1/2	4	White	366	13 1/2	4	4	3	3	14 04 1/2
H. L. Carrier.	H. L. Carrier.	do	Dexter	Dexter	59	4	♂	4	3	White	383	23 1/2	4	4	4	3	12 01	
S. J. Luck.	Granger	do	Granger	Granger	123	2	♂	5	55 1/2	4	White	383	23 1/2	4	4	4	13 01	
A. A. Carrier.	E. N. Bissell.	do	V. Rich's Banker	V. Rich's Banker	349	2	♂	4	7 1/2	4	White	362	25 1/2	4	4	5	5	15 01
Wm. Ball.	Q. C. Rich.	do	7.5 & L. E. Moore's 303	7.5 & L. E. Moore's 303	1	1	♂	5	7 1/2	4	White	363	2-16 1/4	4	4	4	13 08	
C. M. Fellows.	Q. C. Rich.	do	J. T. Stickney's 146.	J. T. Stickney's 146.	137	2	♂	4	4	4	White	362	24 1/2	4	4	3	3	16 08
F. B. Tottinham.	J. T. T. Rich.	do	J. T. T. Rich.	J. T. T. Rich.	350	3	♂	4	8 1/2	3	White	357	23 1/2	4	4	3	3	13 18
C. M. Fellows.	J. T. T. Rich.	do	General	General	373	2	♂	4	8 1/2	3	White	357	23 1/2	4	4	3	3	13 18
A. A. Wood.	J. W. Wooster.	do	Rip Van Winkle	Rip Van Winkle	295	3	♂	4	7 1/2	3	Buff	362	2-16 1/5	5	5	5	12 15 1/2	
Note.—Where figures are used Five indicates superior excellence.																		
W. J. C. DWAN, Secretary.																		

Farm Matters.

OUR FRENCH LETTER.

Manures, their Use and Value—A New Ration for Horses—Silos—Feeding Oil Cake—Parasites for Stock Feeding—Beet Pulp—Miscellaneous Items.

PARIS, March 31, 1888.

M. Delot has undertaken an extensive study on the phosphates in lime in France, and which are found in no less than 50 departments. He accompanies his descriptions with an analysis of each phosphate. The question of manures is at present exciting a good deal of attention; ought they to be mineral, though erroneously termed chemical, manures; or organic, which comprise the refuse of animal and vegetable products. Professor Baron, of Alfort College, leans to the latter class, of which farm yard manure is the type, while Professor Georges Ville as strongly advocates inorganic fertilizers. Farm yard manure ameliorates the soil by the slowness of its decomposition, it imparts from time the doses of nutrition required by the plant. But the pulverized mineral phosphate of lime, sulphate of ammonia, nitrate of lime, the salts of potash, etc., also augment the yield of crops. There is nothing definite to prescribe; the layer of arable soil requires a mixture of various substances, which are decomposed by certain forces, and transformed into food for plants. How do the latter feed themselves, science cannot yet say, cannot state how starch, sugar, albumen, and cellulose are produced in nearly all plants; how immediate principles are produced in certain plants; nicotine in tobacco; essential oils in odoriferous plants; quinine in cinchona; citric acid in lemons; malic acid in apples and pears. Silos and plants require fertilizers differing in kind and amount; exclude none, but ever judiciously select. Some crops are glutinous for phosphoric acid, others are dainty for nitrogen. Spring is the season for employing complementary manures of a soluble nature, while autumn is better for such as decompose slowly.

A NEW RATION FOR HORSES.

The employment of cococa meal in the rations of French cavalry horses has produced such satisfactory results that the practice will be continued permanently.

SILOS.

M. Goffart, the happy discoverer of conserving green fodder in trenches or silos, states that there is nothing in the process (ensilage) but can be varied, such as the form of the silo, its construction as to materials, etc., save the most vigorous attention to the close packing of the mass so as to keep out the air—the exclusion of the latter is the secret of ensilage.

FEEDING OIL CAKE.

Swiss farmers generally employ oil cake by dissolving it when in morsels in hot or cold water, and then pouring the liquid over the cut roots or hay—straw and chaff are never employed, being considered unfit for milking or fattening ends. The mixture is given as the first feed, never after drinking, as it turns enter into the ration the cattle drink too largely. The cake must not be dissolved too long in advance, as it would become sour. The vessels ought to be rinsed and dried every three or four days.

PARASITES FOR STOCK FEEDING.

In the northwest of France, and in lands adjoining the coast, parsnip culture is rapidly extending; all stock relish the root; it produces excellent butter, rich and well-flavored. The renown of the Jersey and Alderney butters is said to be due to feeding the cattle extensively on parsnips. Jerusalem artichokes are being favored for finishing off fat stock. Parsnips fetch half the price of hay.

BEET PULP.

Discussions are still taking place respecting the relative qualities of beet pulp, after the extraction of the sugar either by diffusion or pressure. The former process yields a pulp more aqueous. It has not yet been established, that the fresh pulp produces more meat than the preserved pulp. Heunberg and Kern, who have joined to their laboratory the stomach of the animal and the slaughter house—very essential collateral studies—affirm that in the case of fully developed animals, fattening them does not produce muscle or increase flesh, it only augments the quantity of fat stored up in the animal tissues. Professor Munz confirms these views.

MISCELLANEOUS ITEMS.

The terribly severe, but not unparalleled temperature reigning is telling disastrously on young crops and fruit trees. The budget just presented to parliament allocates 26 million francs to agriculture, the grants for agricultural education have been cut down, those for forestry have been largely increased.

The Sugar Industry.

IL Talocot, in the Ohio Farmer, in a paper on northern cane sugar, gives the following in regard to this new industry which is attracting so much attention: "It is fair to presume the new tariff just adopted will be in force many years, and we shall be obliged to govern ourselves accordingly. That makes the duty on our class of sugars \$2.75 on each 100 pounds, which is ample protection to make this a very profitable work; 6 cents or more per pound will be as low as we shall have to sell our sugar, and molasses at 50 to 75 cents per gallon of molasses, fully \$100. Our factory last season averaged 115 gallons per acre, and it was the poorest season ever known here, but the crop was worth over \$90 per acre when the seed and fodder (that is the leaves and suckers) were added to the molasses and sugar. The seed yields from 15 to 25 bushels per acre, and is worth from 75 cents per bushel upwards for feeding stock, and is cured and threshed exactly in the same manner as wheat, with no changes whatever needed in the threshing machines used. The fodder is worth from \$5 to \$10 per acre for any man to feed to horses or cattle. I have fed ten acres of this winter.

ter, to five horses and twenty cows, and don't guess at any part of this business. I have too much money invested in it to do that way. Procure for the use of your factory a good, large size set of rollers or crusher. The crusher should be the rubber spring pattern, so they will not stick or break if a stick or stone happens to go through them. All rigid rollers must break or stop when any accident happens. We use a No. 1 Louisiana plantation crusher. The rolls are only 16x24 inches, and cost \$800. This is large enough for 100 acres—all we ever desire to handle at our mill each year, but the product of this amounts to about \$10,000. They have smaller mills, down to \$800, that will do equally good work, but not so much of it. We get over 50 per cent of the weight of our green stalks in juice, and burn all our bagasse directly from the crusher—to help manufacture the steam which runs our flouring mill and sugar mill, as we have both in same connection.

"The juice should be allowed to flow directly from the crusher into a cistern. Galvanized iron is the best, because it is the easiest to keep clean and sweet. It should run through a cask filled with straw for a strainer, so there will be no dirt, leaves, or sticks in it, or anything that will prevent its being pumped up from the cistern. When you have got any one customer's cane all crushed, and have a cistern full of it, turn your flow of juice into a second cistern. Have a gauge measure stick that will show you, when put down into the juice, just how many gallons there are; record this in a blank book with the owner's name—kept for a factory registry book. When this is done, test the quality of the juice with a saccharometer and record the degree it makes, on the same line with the gallons. Do this every day with each customer's cane, keeping the amounts of each separate on the books, but boiling them together. To determine the value of each man's juice, divide the number 60 by the degree mark it makes on the saccharometer, and the quotient will give you the number of gallons of juice it takes to make a gallon of thin molasses, say eleven pounds to the gallon, which is as thick as we boil it on our common arches, to complete all our skimming and fit it ready for the finishing pan. Now, if a customer brings you wet cane with rain water or suckers, that produces thin, sour juice, no goodness in it, he loses his time completely and makes an exhibition of his meanness for nothing, while you have a clear conscience and full purse, for you know you have served him right and prevented the robbery he sought to perform.

"As soon as the measurement of the juice in the first cistern is made, have it pumped dry and elevated high enough into a reservoir capable of holding several hundred gallons, according to the size of the factory you desire to run, so that it can flow from the bottom of the reservoir into a desiccating pan first, then from this to a solution pan, and from this into your boiling pans on the common fire arches, or in steam pans, if you use them for its main evaporation.

"Now for the sugar secret. The only reason sugar has not been readily made from this plant for ages, has been from a natural acidity in the juice sufficient at most times to prevent granulation. This can be successfully obviated by the use of lime to first change the juice to an alkaline condition, and then the use of sulphur in the lime introduced or to absorb it, and restore a perfectly bright, clear color, so that it can be boiled down into nice molasses or sugar. There are many different ways sugar makers are doing this work, and all tropical sugar canes have to be treated almost exactly like the Northern cane, to produce their best results. When I describe ours, don't imagine you cannot accomplish the same result in some other way if you desire to do so, but I fail to see in my travels over the country any cheaper, simpler, or easier method to do this work in small factories where they only wish to work from ten to a hundred acres of cane. A good defecating pan is made with pine plank, sides from 12 to 16 inches deep, and 44 inches wide by 96 inches long, outside measure. Then nail on for a bottom a single sheet of galvanized sheet-iron, No. 20—44x96 inches. This is a regular size now for the trade. The iron costs only \$5, and the whole pan only \$10 when done. Heat this line pan with steam; nine lengths of 4 gas pipe on the bottom of the pan, with common returns, and a globe valve to let on the steam or shut it off at will does this work very nicely. It then needs another pan the same as this to hold the same juice and finish its defecation after it is drawn from the line pan. Take common white lime, pour on water until it slakes and forms a solution about as thick as milk, called the milk of lime. Draw from the reservoir whatever amount of juice you desire into the pan, let on the steam, and with a common thermometer see when it rises to 180 degrees, or near that figure, then stir in the milk of lime as completely and evenly as you can until it turns a scarlet litmus paper blue, promptly, then stop and let the heat continue until it boils. As soon as this is done there will be a thick blanket of scum all over the top of the juice. Shut off the heat and then remove the scum, which is easily done by having one end of the pan made flaring and a little the lowest. You can shove all the scum off over that end of the pan into any vessel you choose, with a scraper easily made for the purpose. All the impurities in the juice that are so heavy they will not rise to the top will soon settle to the bottom of the pan and form a thick, muddy mass. The clear juice, as soon as settled and white hot, should then be drawn off into the solution pan."

Don't Die in the House.

"Rough on Rats" Clears out rats, mice, roaches, bed-bugs, flies, ants, moles, chipmunks, gophers. 15c.

The enervation and lassitude of spring time are bad indications of the sluggish action of the blood, overloaded with carbonates accumulated by the use of heating food in winter. This condition may be remedied by the use of Ayer's Sarsaparilla, the best blood purifier known.

The Plaster Puzzle.

In reference to the effect of plaster on soil and vegetation, that mooted question on which every farmer has his own opinion, J. S. Woodward says, in the N. Y. Tribune:

"I have known instances where plaster sown on clover in irregular streaks showed its effects as far as one could see the field; where an application of 200 pounds per acre no doubt made a gain of one ton of hay per acre. On other fields and other soils twice that quantity had no perceptible effect and it apparently was thrown away. No one can forecast results by looking at the soil, or by any other means; practical test is the one and only way. I have sometimes sown early in spring on clover, and then again when the plants were four or five inches high, and though it is a dirty job I prefer to have the work done in the dewy morning. Apply at the rate of about 200 pounds per acre, and if all at once put it on broadcast by hand, or by plaster sower, about the time the plants begin to cover the ground, and leave plots here and there all over the field without any, and one year will tell plainly whether it will pay on your soil.

"For corn it should be put on the hills when the plants are two or three inches high. Take it in a bag over one shoulder, or in a pail on the left arm, and with a little practice you can pick up with the thumb and fingers the right quantity for a hill, and by timing step and motion of hand you soon get to go as fast as you can walk. Some take two rows and take sufficient in the hand for two hills, throwing to the right and left as they pass along. Try this in the same way as recommended for clover, and one season will tell very clearly whether or not plaster will pay on that kind of soil—though this fact should be borne in mind, that plaster has much more and better effect in some seasons than in others. In a season quite dry, with frequent and light showers, plaster has always given me the best results.

"But the fact should be remembered, that plaster is in no sense a manure, and in of itself has little or no value as plant-food. Just how it helps we cannot say, and yet the fact is indisputable that on certain plants on certain soils it does exert a wonderful influence, especially on clover, peas, potatoes and sometimes corn. Since, however, it is not a manure but a stimulant, any increase of crop by its use only so much more and so much faster impoverishes our land, and unless we follow such a system of farming that we put back in real plant-food as much greater amount than ordinary as we remove in the increased crop, we shall find we are none the richer for using plaster, but by so farming that we use the increased crop of clover or other plants to feed the more stock and to make the more manure, then the application of plaster will be one of the means to profit."

Cotton Seed Meal for Stock.

Wm. Horne, a veterinary surgeon of Mobile, Ala., writes to the Country Gentleman warning stock men against the indiscriminate feeding of cotton seed meal.

He says: "That cotton seed is rich in fattening properties there can be no question. I should be inclined to rank cotton seed far above flax seed in richness. As a food, there is every point but one in favor of flax seed. That point is heat-producing and fattening. Aside from this, cotton seed in any form is not desirable as food. If fed as we feed here in the south (and cotton seed is fed largely hereabout), by first boiling it, it is not as objectionable as when fed raw. I have lived here two years, and shall always remember my first dinner on roast beef. I noticed the peculiar taste while eating, and was completely nauseated after dinner. I mentioned the fact to my butcher. He laughed, and said the beef had been fattened on cotton seed. I have since given much attention to mutton, beef, butter, milk, etc., and find beyond a peradventure that when cotton seed is fed to cows the beef, milk and butter are disagreeably tainted.

"This is serious enough, but there are much more serious objections against using cotton seed as food. There is no surer cause of abortion than cotton seed. It is given in nearly every disease of the uterus where contraction and expulsion are desired. There is no drug more potent than the preparations of cotton for producing abortion. As such it has been used by the colored people of the south for many years. As a consequence of feeding cotton seed, I find more cases of sterility and nymphomania than I have ever seen before in one neighborhood. That cotton seed is valuable, I am satisfied; that it will continue to be valuable I am also satisfied; but that it will ever be a safe food for stock I emphatically deny."

Lettuce for Young Chickens.

All kinds of stock like green food, and it is especially desirable for young poultry. Where the fowls have plenty of range it is no trouble to have them supplied in that direction, but where breeders who have but little room and keep several varieties, who are compelled to keep their birds yarded all through the breeding season, and all poultrymen know how soon the fowls will clear up every vestige of grass in their yards. To keep them supplied with fresh greens is a good thing, but it either necessitates going some distance for the daily supply, or soon distasteful to them. Raising cabbage for them is desirable, but it takes some time to get it. The quickest growing thing to raise is lettuce. In very early spring a small hot-bed will start enough to last until the sowings in the open ground have grown large enough to feed. Small beds can be sown, and if a good growth is kept up at first, the bed will last quite a while, as the tops can be cut off as wanted for the poultry, roots being left in the ground to sprout more leaves and tops, which they soon do if well cared for. The expense of keeping up a small bed of lettuce is not very great, and from it the fowls can be supplied with good wholesome "greens," at a time when other "garden sars" is yet in its infancy. It is one of the best things for pigeons in

confinement, and as many of our readers are pigeon fanciers, as well as poultry breeders, the advice above given will be of two-fold advantage to them. Breeders, try it.—Southern Planter.

To Clean a Rusty Plow.

The New England Farmer, in response to an inquiry from a subscriber, tells how to remove rust from a plow, and, incidentally, from other farm machinery:

"Pour about eight ounces of sulphuric acid as purchased at the apothecary's, into a quart of water; do this slowly and very carefully, for it will burn hands, clothing, or almost anything else; also use an earthen or crockery vessel, rather than a tin or iron one. Apply this to the rusty surface two or three times, making each application as soon as the former one is dry. Then wash with clear water, and repeat the process. Give some of the worst spots a rub with a bit of Bristol brick; wash again with water and wipe dry. Put a little kerosene around the bolts, and take the plow to pieces, scouring each piece to get off the remaining rust spots, if necessary. This sounds like a formidable process, but the whole operation ought not to take over an hour. Oil all exposed surfaces with kerosene when you set the plow away, and when you do your spring plowing, a very few turns will finish off the balance of the rust."

What Hay Takes from the Soil.

According to agricultural chemists a ton of average meadow hay removes from the soil 184 pounds of potash, 12 pounds of soda, 23 pounds lime, 7 pounds magnesia, 14 pounds oxide of iron, 23 pounds sulphuric acid, 6 pounds phosphoric acid, 23 pounds chlorine, 38 pounds silica. A ton of clover hay takes 32 pounds potash, 84 pounds soda, 434 pounds lime, 52 pounds magnesia, 4 pounds oxide of iron, 7 pounds sulphuric acid, 104 pounds phosphoric acid, 6 pounds chlorine, and 6 pounds of silica. This meadow grass absorbs 1104 pounds of mineral matter per ton and clover hay 1184 pounds. Potash and lime, counting out silica, which does not add to the nutritive properties of the plants, supply about two-thirds of the food that the grass plants draw from the land in which they grow, and about three-fourths used by clover. Thus we see why limestone regions are so excellent for grazing purposes, and why lime and sulphuric acid in the form of land-plaster or gypsum, is so beneficial, in certain cases, to pastures and meadows.

Agricultural Items.

HUNDREDS of carloads of Nebraska corn are being taken by the farmers of Illinois and Iowa.

The Massachusetts Ploughman says that whenever we say hay we begin to feel the fertility of our farms, and must replace the lost elements by fertilizers beyond the limits of the farm.

It is stated that northern farmers will have to compete with a very heavy crop of early southern potatoes this year, the high prices of last season having induced unusually large plantings.

F. D. CURTIS says that barnyard manures have a much greater value for growing crops than the chemist's crucible shows. Chemists can not give their full constituent value; and then again the value of one ton is not the value of another.

The Iowa Register says P. V. Lawson, of Menasha, will plant near the shore of Green Bay, 60,000 oster willow cuttings from England and Belgium, which he has ordered for the purpose of making a thorough trial of raising willows for the eastern willow manufacturers.

A BUTTER-MAKER, writing to the Iowa Homestead, says the best butter color is a pale, full of corn meal mush, fed warm once a day, the corn to be of the yellow variety; adding that it will increase the milk and butter as well as give a good color.

Is buying farms rarely pays to purchase one badly run down, with the idea of improving it. The cheapest improvements are always to be had ready-made. If the owner goes to work to improve the run-down farm he finds a never-ending job, and himself an old man before the farm is fitted to suit his ideas.

Dr. FLEMING, the distinguished veterinarian, has discovered a minute vegetable parasite in the white cheesy matter found in swellings on the jaws and throats of cattle, and commonly supposed to be scrophulous or tuberculous deposit and decay of the tissue of the bone. It is believed that many tumors on the jaws of cattle are due to this cause.

A CORRESPONDENT of the Rural New Yorker says he tried the plan advocated by a contributor to that journal, of cutting his seed potatoes five weeks before planting, dusting them with plaster, spreading them four inches deep and shoving them over once a week. When he planted them the sprouts were fully started. They came up, he tells us, in ten or twelve days, and he thinks he gained a week in earliness.

To offset the advantages claimed for corn planted in drills, a correspondent of the Rural Home points out that the land is soon filled with pigeon grass seed, which is unavoidably propagated to a large extent, because the cultivator can get at only one side of the corn; the greater difficulty in cutting up, and the fact that the yield may be greater, there are no large ears, a large proportion of the crop being bunnies and undersized ears.

F. P. ROOT, in Rural Home, says: "Potato growing on a large scale is not the most reliable branch of farming. In seasons of abundant crops, prices are often too low to be remunerative, for the large expense of handling and marketing, for a surplus of a perishable crop will find no paying market. Yet the thorough and painstaking farmer who can raise fair crops in unfavorable seasons, will find no common crop more remunerative."

Waiting a Claimant.

A challenge is offered to any one who can produce a case of torpid liver that will not succumb to the influence of Simmons Liver Regulator, taken regularly by direction.

Adamson's Botanic Balsam has gained a reputation which places it in the front ranks of curative agents. It has been in the market but about ten years. It is now recommended by the best physicians because it cures colds and colds every time. Price 35 cents.

OVER 250,000 Hows Scales have been sold and the demand increasing continually. Borden, Sellick & Co., Agents, Chicago, Ill.

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DARBY'S PROPHYLACTIC FLUID

For the prevention and treatment of Diphtheria, Scarlet Fever, Small Pox, Yellow Fever, Malaria, etc., etc.

The Fluid will do more to arrest and cure these diseases than any known preparation.

Darby's Prophylactic Fluid; A safeguard against all Pestilence, Infection, Contagion and Epidemics.

ALSO AS A GARGLE FOR THE THROAT. AS A WASH FOR THE EYELIDS, AND AS A DISINFECTANT FOR THE HOUSE.

A Certain Remedy Against All Contagious Diseases.

Neutralizes at once all noxious odors and gases, destroying the germs of disease and septic (putrescence) floating imperceptibly in the air, such as heavy or light soil; delicious taste. For sale by the packet only, 25 cents; five packets, \$1.00, 10 packets, \$2.00.

Perfectly Harmless used Internally or Externally.

J. H. ZEILIN & Co., Proprietors, Manufacturing Chemists, Philadelphia, Pa. Price 50 cents per bottle. Pint bottles \$1.

The Bad and Worthless are never imitated or counterfeited. This is especially true of a family medicine, and it is positive proof that the remedy imitated is of the highest value. As soon as it has been tested and proved by the whole world that Hop Bitters was the purest, best, most valuable family medicine on earth, many imitations have been made, no matter what their style or name, and especially those with the word "Hop" or "Hops" in their name or in any way connected with them or their name, are imitations or counterfeits. Beware of them. Touch none of them. Use nothing but genuine Hop Bitters, with a bunch of cluster of green hops on the white label. Beware of cheap imitations and dealers are warned against dealing in imitations or counterfeits.

DR. W. KERMOTT'S ACT WITHOUT PAIN.

STRICTLY VEGETABLE.

MANDRAKE PILLS,

CURE Sick-Headache, Dyspepsia, Liver Complaint, Indigestion, Constipation, and PURIFY THE BLOOD.

NOTICE.—Without a particle of doubt, Kermott's Pills are the most popular and best of the market. Having been before the public for a quarter of a century, and having always performed more than was promised for them, they merit the success they have attained. Price, 25c. per box. For sale by all druggists.

DRY GOODS BY MAIL. J. J. Case & Co., Boston, Mass.

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AGITATOR. "Don't Change It." "Perfect as it is." IN GRAIN, FLAX, TIMOTHY, CLOVER, AND PEAS.

PORTABLE TRACTION STRAW-BURNING SKID ENGINES!

We make the most Practical Straw-Burning Engine in the World.

The Popular Double Flange 4-Wheel Woodbury Horse-Power Reversible Mill Wheel. Runs either way, Low or High Speed. The BEST Power made. Over Exclusively.

Do you live near Timber? Or, do you buy or sell PORTABLE SAW MILL. Take it to the timber. SAVE HAULING LOGS TO THE MILL. 5,000 TO 10,000 FEET PER DAY.

ALL MACHINERY WARRANTED. Write for Catalogue. Costs Nothing.

No Man Need Lack A HOME.

TO BUILD A HOUSE.

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THE BEST IS ALWAYS CHEAPEST. WHERE MUCH WORK IS TO BE DONE. Address for circular W. W. FARR, Abington, Conn.

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ROCHESTER! A NEW TOMATO.

The ROCHESTER is the product of a cross between the Acme and Loring. As large as the Acme, but as smooth as the Loring. It is undoubtedly the largest smooth tomato. Firm, dark skin; bears transportation well; absolutely no core; ripens close to the stem; did not decay last season on heavy or light soil; delicious taste. For sale by the packet only, 25 cents; five packets, \$1.00, 10 packets, \$2.00.

HIRAM SIBLEY & Co., SEEDSMEN, Rochester, New York, Chicago, Illinois.

BIDWELL, MANCHESTER, JAMES VICK, SHARPLESS

and more than one hundred other strawberry, for sale in large or small quantities; also a full assortment of Raspberries, Currants, Gooseberries, Blackberries and Grapes. Correctness in name determined by careful examination when in fruit. The utmost care employed in handling and packing. New and promising varieties a specialty. My new price list mailed free to all applicants. T. T. LYON, South Haven, Mich. 11-21-87

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of EVERYTHING for the GARDEN.

which for 1888, contains PETER HENDERSON'S "Revised Instructions on Vegetable and Flower Culture," and also a full and complete list of the latest information known to the author of "Gardening for the People." Price, 25c. per copy. (Please state on what paper you wish it.) Peter Henderson & Co., 35 & 37 Cortlandt St., New York.

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MOORE'S HOG CHOLERA CURE.

Is offered to the public after four years of experiment, which has proved it the ONLY RELIABLE REMEDY for this terrible disease.

It is a simple, safe, and sure cure, and I guarantee that if faithfully tried according to direction, and it fails to accomplish all I claim, I will refund the money. Send for circulars and testimonials to Dr. J. B. MOORE, 201 Lake St., CHICAGO.

Where my expenses are paid, I will visit you or more hogs, and when I treat them, I will charge \$1 per head for time and medicine, and if I lose that I treat, I will forfeit \$2 per head for same. ASK YOUR DRUGGIST FOR IT. 10-10-87

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Can be learned of the latest experiments and best new varieties, from the new work on above crops, sent free by J. C. VAUGHN, 42 La Salle St., Chicago, Ill.

CATTLE PUMP! Waters all kinds of stock perfectly without attention, hand or wind. Simple, durable, and cheap; equals any handmill. Sent on trial. Send for circular. R. B. FAYOR & Co., Indianapolis, Ind. 10-10-87

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First Premium, Illinois, 1887. The only one of its kind in the world. It is a simple, safe, and sure cure, and I guarantee that if faithfully tried according to direction, and it fails to accomplish all I claim, I will refund the money. Send for circulars and testimonials to Dr. J. B. MOORE, 201 Lake St., CHICAGO.

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A New and Direct Line, via Seneca and Kansas City, to all points on the Chicago and Kansas City, Council Bluffs, Leavenworth, St. Louis, St. Paul, and other points.

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Horticultural,

THE RECENT HORTICULTURAL EXCURSION TO NEW ORLEANS.

(Continued.)

On Saturday evening at eight o'clock, the meeting was called to order for its final session.

J. C. Evans, of Missouri, was introduced, and read an interesting paper on Raspberries and their Management. He urged that while many fail in the business of agriculture, similar failures are quite as common in small fruit culture.

The arrangements were then announced for the excursion to Mobile. The party were to leave New Orleans at 7 o'clock, A. M.; arriving at Mobile at noon. They will be received by the officials of the Mobile and Ohio Railroad, who will provide carriages for the entire party. The afternoon, and the greater part of Wednesday, will be devoted to sight seeing; after which the party will be returned to New Orleans, or taken direct to Cairo, as they shall prefer.

The Persimmon in Arkansas was the subject of the next paper, read by D. B. Wier, now a resident of that State—formerly of Illinois. He gave the subject a half humorous, half serious turn, alluding to the tendency of the fruit to variation; and made some rather flighty remarks respecting its possibilities in a utilitarian direction; remarking especially upon the superior qualities of the timber for furniture, paneling and other uses.

This paper was followed by one from W. M. Samuels, of Kentucky, on The New Apples of Value for Market; viewing the matter from the Kentucky standpoint.

T. T. Lyon, of Michigan, chairman of the committee on fruits exhibited, then read the report of that committee, referring to several new fruits on the tables, and calling attention to several curious novelties among the articles exhibited, as well as to the very large and fine collection exhibited by the Horticultural societies of Missouri and Wisconsin.

A contribution having been taken up among the members, and a fine gold watch procured, Prof. S. M. Tracy, the outgoing secretary, was called forward by the President, who stated that since he had been guilty of faithfully serving the society since its organization, he was commended to wear this badge of servitude to the end of his life.

The professor was evidently taken by surprise by the induction; and responded in feeling terms.

Thereupon, Miss Mathilda Rodriguez of New Orleans, and Miss Stella Daigre, of Metairie Ridge, Jefferson Parish, in behalf of the ladies of Louisiana, supplemented this timely gift by presenting to Prof. Tracy and President Earle, each, a beautiful bouquet.

Owing to the absence of the committee on resolutions, T. T. Lyon, of Michigan, was pressed into this service; and after a little progress had been made, Ex-governor Furnas, of Nebraska, and Prof. Tracy of Missouri, came to the rescue. Mr. immediately upon the completion of the report, it was presented to the meeting by Prof. Tracy, who had acted as secretary of the committee. The following is the exordium.

"Mr. President—In the gathering of the members of this Society from the snows of the north, the prairies of the west and the plains and mountains of 'The Great American Desert,' of our school boys and days, and in assembling them in this Crescent City with its balmy breezes, budding flowers and ripening fruits, commingled in delightful confusion, we might be excusable if there arose in our minds some anxiety as to the sufficiency of the arrangements that should be found needful, for the convenience of our deliberations; and even as to the success of our efforts to interest its people in the object of our gathering; to say nothing of our desire to visit and acquaint ourselves with the—to us—curiosities of this almost tropical region.

"We are confident that we speak the unanimous sentiment of this society, when we say that our fears in this respect have proved groundless; and that our anticipations have been more than realized."

The usual references to those who had, in a variety of ways, contributed to the convenience and interest of the session, and to the accommodation and pleasure of the members, were then presented in a resolution; and the whole was adopted by a rising vote.

Invitations were then given for the holding of the next meeting at Kansas City, Mo., and the idea was suggested, that it might be made the occasion of an excursion to California.

Judge E. M. Hudson, vice president of the Horticultural Association of the Gulf States, also invited the Society to revisit New Orleans.

The Society having closed its exercises, then adjourned, sine die; leaving the time and place of the next meeting to be arranged by the Executive Committee.

On Sunday we visited one of the city cemeteries, which we found to be very nicely kept; the walks and drives being covered with shells or gravel; and the whole planted with trees and shrubs, many of which were familiar to us as inmates of our northern greenhouses. Here, as almost everywhere, the Live or Evergreen Oak was freely planted.

A conspicuous peculiarity, made necessary by the level country, and the impossibility of drainage, is the mode of burial in vaults, built of stone or brick, wholly above the surface, with niches, one above another, in which bodies are placed, and hermetically sealed with cement.

Monday being our last day in New Orleans, was devoted to sight seeing. Taking a street car on Canal Street, operated by a small locomotive, we ran out a few miles, to a prominent fashionable resort on Lake Pontchartrain; but, as a smart breeze from the north reminded us of the snow and ice we had just left behind, and the place was therefore nearly deserted, we soon returned, stopping by the way at a deserted field, quite without the city, to collect specimens of the

southern or Spanish moss, which here takes possession of the trees, and sooner or later insures their death.

Here we measured the spread of branches of an immense Live Oak, standing in the open field; which was found to cover a space fully seventy-five feet in diameter.

We also revisited Carrollton, just above the city, upon the bank of the Mississippi; where we picked up a few vegetable curiosities; which we exhibited at the meeting of the Michigan State Horticultural Society, at Marshall, on the 8th and 9th of March.

Returning, we visited the greenhouse of Mrs. Dr. Richardson, who had extended to the Society an invitation for this purpose. The house is divided into compartments; the first devoted to plants nearly hardy, and requiring a comparatively low temperature; the second to Orchids, and plants requiring similar conditions of temperature and moisture; and the third to ferns and plants demanding similar treatment. The plants generally were in fine condition. Several orchids were in bloom; and we were attracted by a fine collection of very rare foliage plants, seldom seen out of their native location; but which here were in healthy and vigorous condition.

The collection of ferns was very large, the plants larger and more fully developed than can usually be seen in commercial greenhouses; the whole giving evidence of thoughtful and intelligent care.

We learn that Mrs. Richardson is a thorough botanist, an extensive traveler in regions rarely visited by tourists, and an enthusiastic collector of plants; and that she in person, collected a large number of the varieties contained in the collection; which is maintained purely as a matter of personal gratification.

The evening was spent in our room in packing our curiosities, preparatory to our departure on the morrow. At seven o'clock in the morning, Tuesday, Feb. 27th, we made our way to the Mobile and Ohio Railroad depot; and were soon on our way to the "Bay City" of Alabama.

T. T. LYON.

WILD FRUITS AND THEIR IMPROVEMENT.

BY T. T. LYON.

(From forthcoming report of the Michigan Horticultural Society.)

In considering this subject, we may at the outset, remark that the peculiarities of our climate, growing out of our semi insular situation, have doubtless very much to do with the original ennobling of the State; and that the forest growth, through their sheltering influence, have in their turn supplied the conditions requisite to the success, not to say the existence even, of many of our indigenous wild fruits.

We may add also, that our climate, so far as humidity and extremes of temperature are concerned, is so modified as to become the equivalent for several degrees of additional latitude southward; adapting our State to the production of many of the products of central Kentucky and northward. Owing to these favoring circumstances and to the great length of the State from north to south, the number of our indigenous wild fruits is found to be very large; while the modifications of many of them, consequent upon the varied influences of climate and soils, operating through indefinite periods in the past, have in many instances provided the best possible material to which to apply effectively the more modern processes of scientific amelioration.

To apply such process in the case of a wild fruit possessing the fixity of character of our native crab apple, (Pyrus coronaria), for instance, can offer little prospect of desirable results, in the near future, unless, perchance, some not too remote member of its family can be brought to hybridize with it. On the other hand, fruits which like the blackberry, (Rubus villosus) or the Black Cap, (R. occidentalis) indulge spontaneously, in their wild condition, in variations or sports, become hopeful subjects for the application of the processes, whether of hybridization or otherwise, by means of which nature operates in the work of amelioration. In the study of our native fruits, with reference to such purpose, we will no doubt discover yet another, and a still more tempting field of operations; so far, especially, as immediate results are concerned. I refer to cases like those of the blackberry (Rubus villosus), and the dewberry (R. canadensis), also the wild cherries; the Black Cap, and Red Raspberry; and possibly some varieties of Vaccinium, among some of which at least, it is commonly supposed that hybridization has sometimes occurred accidentally; instances of which are supposed to exist in Ganagrus, Shaffer's Colossal and other raspberries.

Much has been already done in the improvement of both the blackberry and Black Cap, and the work so done may reasonably be considered as supplying a most hopeful basis for subsequent operations; supplementing nature, instead of (as in the past,) merely selecting what she shall supply ready to our hand.

As will naturally be inferred from the foregoing, we regard the multiplicity of our wild fruits, with the plenitude of influences tending to encourage variation, as affording one of the most promising fields now open to the curious and thoughtful pomological experimenter—a field almost wholly unworked, and which would seem to offer among its untapped possibilities, promise of results far more intrinsically valuable than have been the many triumphs that have so honored the noted experimenters of the present and past ages, in the department of floriculture.

Among the many native fruits to which attention may very properly be drawn for this purpose, we may mention the June or Service berry; which notwithstanding its tendency to variation and other promising and desirable peculiarities, seems never to have been taken in hand, with the purpose of improvement. Between this and the dwarf form, sometimes grown in nurseries, there would seem to be promise of desirable results.

The Papaw, or Pawpaw, as it is more commonly spoken, (Asimina triloba),

which is indigenous in the south three fourths of counties, seems to hang upon the skirts of cultivation, with a pertinacity which demonstrates the existence of an ability to "take care of itself"—a very notable characteristic of some of our popular fruits. May there not be reason for the hope that if subjected to the processes of liberal and intelligent culture, it would sooner or later respond with results well worthy of perpetuation, with the requisite improvement in both quality and productiveness?

So in the genus *Carya* (Hickory), the effort might be diverted to obtaining the size of *sealuta*, the quality of *alba*, and the thin shell of *porcina*.

The blending of qualities by hybridization, may perchance produce, from a similar combination of our native *Corylus* with *avellana*, a result hardly and prolific enough to warrant its introduction to market culture.

Our fellow citizen, B. Hathaway, by going back to one of the earlier descendants of our native *Fragaria*, has given us the Bidwell strawberry, among many others; and as proof that his hand has not yet lost its cunning, he has more recently, and from the same strain, originated others, some of which already manifest a vigor and productiveness calculated to beget strong hopes of future value.

This field is being actively occupied; and it is just possible that even that Arab among strawberries—the Wilson, and its soft feminine mate, the Crescent, may be yet overmatched; if not among the Has-beens, then possibly among the Is-to-be's.

Juglans—both cinerea, (butternut) and nigra, (blackwalnut), often vary greatly in size, if not even in quality also, as grown wild; and hence the careful selection of seed for planting would no doubt secure improved results.

Our wild yellow or red plum (*Prunus americana*), naturally runs into numerous varieties; and it seems probable that this or its combination with *P. chiesica*, might become the means of securing desirable results.

We have already referred to the several indigenous wild cherries, as affording a promising field for hybridization. It may be a matter of grave doubt whether hybridization between them shall be found even possible; still their diverse peculiarities afford occasion for the belief that once effected, the progeny must show decided variations, probably from both parents.

The gooseberries, even in the wild state, vary greatly. Enough has been already effected with them to encourage the hope that by continued selection and hybridization, we may be able to rival the English in this fruit; if not in size at least in quality.

Our native Sambucus, (Elder), is so objectionable on account of its persistent disposition to emit sprouts, that we doubt if it would prove even tolerable in cultivation. It is, however, little inclined to vary, that there seems but slight encouragement for the effort to improve it.

The varieties of Vaccinium (blueberry), are so numerous and their peculiarities so distinguish them from each other; and moreover, some of them and especially corymbosum, vary so much in both size and quality, as to afford ample ground for the hope that, as the result of cross fertilization, or the selection of seeds and seedlings, something of real value may be obtained. The tall bushy corymbosum would seem to offer the greatest promise in this respect, on account of its stronger growth. The small size of the plants of the other blueberries, as well as their peculiar demands as to soil, shelter, etc., may be found to be serious obstacles in the way of their profitable utilization, under cultivation; notwithstanding the fact that even in the native form, their productiveness, size and quality have always given them a high position in popular estimation. Really, therefore, it is occasionally heard, that experiment would be likely to deduce desirable results from this family of natives; still, so far as we are informed, this field remains wholly unoccupied.

Viburnum opulus (tree cranberry), may perhaps be made to develop something useful, under expert treatment, since it can be readily subjected to garden culture; but so long as we have as its alter ego, that prolific and rampant native, the American cranberry (Oxycoccus macrocarpus), we are likely to rest content with this, as the basis of our operations.

The genus Vitis, in some of its forms, is at home in most sections of our State. Cordifolia (Riparian), evinces some tendency to variation, within rather narrow limits. Labrusca occasionally occurs in the more southern counties. We are not sure that *estivalis* is really a native of our State; although very common and successful as an introduction under cultivation. As evidence of the susceptibility of this family to improvement, we only need point to the wonderful results of the efforts, for this purpose, so persistently carried on by the grand army of experimenters during the last quarter of a century—results that promise to transfer to America, the title—*The Home of the Fine*—so long arrogated to their locality by the residents of southern and central Europe; the right to which seems now to be sadly endangered by the rapid improvement of American varieties, as well as by the inroads of that insidious enemy the phylloxera.

In the shallow waters of very many of our lakes and estuaries, the Indian or wild rice (*Zizania aquatica*), finds a congenial home; supplying a valuable article of food to the red man of the forest, with an abundant residuum, which is usually appropriated by hordes of aquatic wild fowl.

To the white man, whether as an article of food or of commerce, its color alone is an objection to its common use, to say nothing of the other difficulties in the way of its profitable utilization. Still, in certain localities, there are immense, unproductive tracts, adapted to the growth of this plant, and apparently to little else. Hence we indulge the suggestion, that intelligent and thoughtful experiment, coupled with careful study of the capacities and requirements of this plant, may, perchance, rid it of some of its more objectionable peculiarities, and develop processes, through which large tracts of otherwise waste territory may be profitably utilized; and at the same time, a new food product, in a measure proof against summer drought as well as winter cold, be given to our people.

We have thus hastily noticed some of the more prominent possibilities for improvement among the indigenous fruits of our State; not so much to mark out a line of operations, or even a course of experimentation; but rather to point out the apparent possibilities; and to furnish food for thought to the curious and considerate, at the same time affording a basis of ideas, out of which to elicit discussion, and draw out such ideas or facts as those present may be able to bring to the elucidation of the subject, which is extremely broad and diversified. If we look backward over the history of our race, recalling the fact that probably none of the products, whether vegetable, cereal or animal, upon which man habitually depends for sustenance, were originally

given to him in their present highly artificial and improved condition; but have rather come down to him, as the result, generally, of purely accidental variation, under culture; not generally of the most effective character; we, in a State so unusually prolific of the material out of which all this has been wrought, may well look about us, and consider whether, with this mass of material ready at our hand, and with all the lessons taught us by modern science, together with the experience of the past, we may not hope to realize in other directions, and with new material, results more prompt, certain and effective—the outcome of a more matured knowledge of the operation of nature's laws.

Practical Advice on Strawberry Culture.

Hon. M. P. Wilder recently read a paper on strawberry culture before the Massachusetts Horticultural Society, from which we take the following extract:

"In regard to culture, the strawberry is a gross feeder; without a well-prepared soil and abundant supply of proper food, and at the proper time, no great success can be anticipated. We should plant on land which has not been for some years occupied with strawberries, and manure and prepare thoroughly, and give a good top dressing immediately after the fruiting season, and repeat this in the spring, being very careful not to disturb the roots. Well rotted stable manure is good; ashes—or, as a substitute, muriate of potash—and bone are excellent fertilizers, and these are the better if composted with soil or manure and allowed to heat before using. In this climate the spring is the best time for general planting.

"But when every care has been taken in planting, we have often to contend with the heat and drought of summer, which is the most formidable of all difficulties. No plant is more benefited by a constant supply of water in fruiting season than the strawberry. 'Give the strawberry water! water! water! and still a little more water!' Grown on a large scale for market the means of irrigation should be provided so that water might be given whenever needed.

"Some varieties require to be grown in hills, and to have the runners cut off as soon as they appear. Such are the Sharpless, Bidwell, and Triomphe de Gand. Some are pistillate and require the bisexual kinds to be planted near by and to bloom at the same time. Such are the Hovey, Crescent, Jersey Queen, and Manchester. For want of proper impregnation these kinds often fail of a crop, but with a suitable companion the pistillate varieties produce very large crops, as did the Hovey forty years ago. Some varieties produce a large number of trusses, and give promise when in bloom, of extraordinary crops, but do not yield so much as those of less pretentious appearance. There is a limit to the power of production, and where there is a superabundance of trusses of flowers only a portion will set their fruit and carry it out to perfection without excessive stimulation. Another cause of failure is a deficiency of pollen in some of the bisexual varieties, and it is well to plant near them such as are furnished with abundance of it."

Plums for Market.

At the late meeting of the Western New York Horticultural Society, R. N. Handy, of Orleans County, asked for the best market plums for an orchard of 200 or 300 trees, which he intended to set out in spring. S. D. Willard, who has had much experience with plums, said it is hard to select for copper, but he would name the Lombard, Copper plum, and Reine Claude de Bayay, as profitable for market. All plum trees must be well fed, or else it is better not to plant them at all. The Reine Claude de Bayay is liable to overbear, and the fruit must be timely thinned. The yellow or light-colored plums sell best. He plants his trees 12 by 16 feet apart; some of them 16 by 16 feet. Moore's Arctic plum, from Maine, was highly spoken of for cold regions. Mr. Barry said Pond's Seedling is a valuable market sort, but a light bearer while the tree is young. The McLaughlin was commended for high quality. The Jefferson is an excellent plum, but the tree is a poor grower.

"Rough on Corns."

Ask for Wells' "Rough on Corns." 15c. Quick, complete, permanent cure. Corns, warts, bunions.

Horticultural Notes.

The New York Tribune says that a novelty which has won in a very short time very wide if not general favor, is Bliss's American Wonder Pear.

The Charles Downing strawberry is assumed to be a prominent place for home use and a near market, though not firm enough to bear long transportation.

It is said that dissolving saltpetre and sprinkling the vines with it as soon as they are above ground, will repel the striped bug which attacks squash vines.

The *Industrial South* says that on the farm of James V. of Patrick County, Va., there is an apple tree which shades, at noon, a space of ninety feet in diameter, and which has borne one hundred and thirty bushels of apples at a single fruiting.

Hon. M. P. Wilder says he would set strawberries for exhibition in August and keep them single plants; for market he would set in spring and let the plants cover the ground. Strength is gained by taking off the runners, especially the late ones.

Prof. Bron brought from Russia seeds of new varieties of musk and watermelons, which he proposes to test with reference to their adaptability to our climate. He says they are of the quality and seem perfectly fringed in their native habitat, and thinks they can be acclimated here.

J. C. PLUMB, in the *Western Farmer*, points out that the great danger in the use of grafting wax is that if too soft the oil or grease will penetrate and fill the scion. To avoid this, he shields the graft from sun and wind by wrapping a strip of paper around it, which adheres firmly to the wax. He says also that it is important that every crevice be kept waxed up.

An eastern farmer irrigated his cabbage patch, situated in a small orchard of young trees, with the waste water from the house, conveying it thither through home-made lead troughs hewed out of second growth saplings. The result was an extraordinary growth

of cabbages and turnips, and increased thrift of the fruit trees, while the house was rid of a stagnant drain and unsightly waste.

A CORRESPONDENT of the *Indiana Farmer* says the best and most economical mode of using Persian insect powder is by infusion. Put a tablespoonful of the powder into a pail and pour two or three gallons of hot water upon it; let it cool, and apply with a fine rose sprinkler. One pound, worth at wholesale forty cents, will make 250 gallons of the infusion. It kills insects by contact, not through eating.

A FARMER of Emerson, Iowa, writes to the *Homestead* that two men have taken \$1,000 to \$1,500 worth of orders for "Iron Clay apples," Russian mulberry, etc., at most exorbitant prices, claiming to be connected with the State Agricultural College, and with Professor Budd. One of the victims, having his suspicions aroused, wrote to the College, ascertained the men were frauds, and intimidated the cheeky agents into giving up his order and those of several of his neighbors.

For mice-gnawed trees, a correspondent of the *Germantown Telegraph* recommends covering the wounds with grafting-wax at once, then pile earth and pack it around high above the place to keep covered, as it will settle and wash down some. This, if done early, will save thousands of trees that have been injured by mice and rabbits. Make wax of one pound beeswax to four pounds resin and a half pint of linseed oil. If too soft add more resin; if too hard, more oil. The wounds must not be neglected till they are hard and dry.

That poor bedridden, invalid wife, sister mother, or daughter, can be made the picture of health by a few bottles of *Hop Bitters*. Will you let them suffer when so easily cured?

NEW ADVERTISEMENTS.

The Prophet Honored in His Own Country, even in His Own House. THE honest, simple narrative of Mrs. S. J. WHIPP, who resides at No. 117 Williams St., Providence, R. I.:

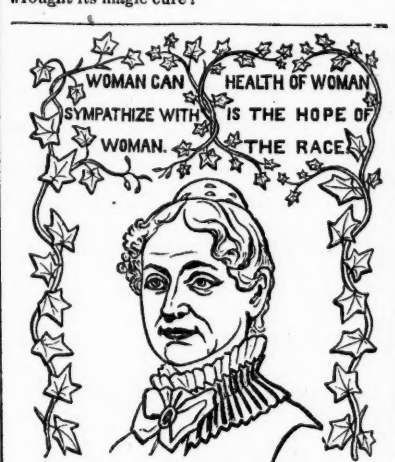
"During the past six or seven years I have been severely afflicted with Kidney disease, causing intense backaches, dizziness, and other severe pains through my body and limbs, rendering me so weak and prostrate that at times it was impossible for me to do any part of my household work. I have had also a fluttering of the heart, and was terribly distressed for breath. I was very miserable, and completely worn out and discouraged; I had no ambition to work, and to do anything, and barely sufficient strength to render existence desirable, having failed to find any relief from the doctor's prescriptions. At this trying crisis a friend persuaded me to obtain a bottle of Hunt's Remedy, and now I rejoice that I followed this friendly advice, for the remedy acted like a charm in my case. After I had taken a few doses, my health began to improve; I felt better every day. The fluttering of the heart, the intense backaches, and terrible shortness of the breath speedily disappeared, my strength and ambition soon returned, and before I had taken ten bottles of the Remedy I was entirely well, and able to wash and iron and do my household work. Once in a while I am troubled with the headache, and as soon as I am taken I resort to Hunt's Remedy, and a few doses fix me all right. I shall never be without it in the future. I have frequently recommended the Hunt's Remedy to my friends, and they have experienced relief from the first dose. I heartily recommend it to all who are afflicted with Kidney disease or diseases of the Liver, Bladder, or Urinary organs. I think no family should be without it."

Mrs. S. J. WHIPP, No. 117 Williams St., Providence, R. I.

Acts Like a Charm.

"I HAVE used Hunt's Remedy for Kidney troubles, and recommended it to others, and always found it to act like a charm."

JOHN CHAMBERS, 723 Carson Street, Pittsburgh, Penn. "Gratitude is the memory of the heart." How many heart memories cluster around Hunt's Remedy in grateful households where it has wrought its magic cure!



WOMAN CAN HEALTH OF WOMAN SYMPATHIZE WITH THE HOPE OF WOMAN, WITH THE RACE.

LYDIA E. PINKHAM'S VEGETABLE COMPOUND.

A Sure Cure for all FEMALE WEAKNESSES, Including Leucorrhoea, Irritation of the Pelvic Organs, Painful Menstruation, Inflammation and Ulceration of the Womb, Flooding, PRO-LAPUS UTERI, &c.

Pleasant to the taste, efficacious and immediate in its effect. It is a great help in pregnancy, and relieves pain during labor and at regular periods.

PHYSICIANS USE IT AND PRESCRIBE IT FREELY.

FOR ALL WEAKNESSES of the generative organs of either sex, it is second to no remedy that has ever been before the public; and for all diseases of the Female it is the Greatest Remedy in the World.

KIDNEY COMPLAINTS of Either Sex Find Great Relief in Its Use.

LYDIA E. PINKHAM'S BLOOD PURIFIER will eradicate every vestige of Humors from the blood, at the same time will give tone and strength to the system. As marvellous in results as the Compound.

Both the Compound and Blood Purifier are prepared at 233 and 235 Western Avenue, Lynn, Mass. Price of either \$1. Six bottles for \$5. The Compound is sent by mail in the form of pills, or of lozenges, on receipt of price, \$1 per box for either. Mrs. Pinkham freely answers all letters of inquiry. Send 2 cent stamp. Send for pamphlet. Mention this paper.

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Guaranteed to Cure Dyspepsia.

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Heart, of two years' standing, than all other medicines I ever used.

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The Michigan Farmer

State Journal of Agriculture.

DETROIT, TUESDAY, APRIL 24, 1883.

WHEAT.

The receipts of wheat in this market the past week have been 64,074 bu., while the shipments were 41,457 bu. The visible supply of this grain on April 14 was 21,708,390 bu. against 11,200,229 bu. at the corresponding date in 1882. This shows a decrease from the amount in sight the previous week of 641,623 bu. The exports for Europe for the week were 814,203 bu., against 1,060,180 bu. the previous week, and for the past eight weeks 7,977,191 bu. against 8,241,266 for the corresponding eight weeks in 1882. The stocks in this city on Saturday amounted to 1,515,094 bu., against 1,508,074 last week, and 138,468 bu. at the corresponding date in 1882.

The tendency of the market has been toward higher prices the past week, both cash and futures closing on Saturday with a quite active demand and better prices than for the past three weeks. This was the result of advices from other points, as with the large stocks of wheat held here there was nothing to cause a rise in values. Receipts, however, are becoming lighter each week, and now that spring wheat has commenced in earnest there will be very little grain of any kind marketed until it is well over, without considerably higher prices induces farmers to take advantage of such a condition of the market.

Yesterday the market was stronger at the opening of the day, and terms on both spot and futures were advanced. Later there was a weaker feeling, and the market closed quiet at about Saturday's closing prices.

The following table exhibits the daily closing prices of wheat from April 23 to April 23rd:

	No. 1	No. 2	No. 3	No. 4	No. 5
Apr. 23	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 22	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 21	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 20	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 19	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 18	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 17	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 16	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 15	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 14	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 13	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 12	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 11	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 10	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 9	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 8	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 7	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 6	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 5	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 4	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 3	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 2	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 1	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2

Reported closed at 72c per bu., one week ago at 71 1/2c.

Futures were more active than cash wheat, and showed strong symptoms of buoyancy under favorable advices from other markets. The following table will show the fluctuations from day to day in the various deals during the past week:

	May	June	July
Tuesday	1.06 1/2	1.07 1/2	1.09
Wednesday	1.06 1/2	1.07 1/2	1.09
Thursday	1.06 1/2	1.07 1/2	1.09
Friday	1.06 1/2	1.07 1/2	1.09
Saturday	1.06 1/2	1.07 1/2	1.09
Sunday	1.06 1/2	1.07 1/2	1.09

Reports from the growing crop are more favorable, the weather of the past week being seasonable, though a little cool. A good, warm rain is required to start the plant growing in many sections, where it has not yet had a chance to make much growth owing to the lack of moisture in the soil. So far as we can learn, the crop in this State, though somewhat badly spotted in some localities, is looking fairly well as a rule—much better than in any of the other winter wheat States. Latest advices from California show that the recent rains there have been of immense benefit to farmers, and just came in time to save the wheat crop from a total failure. A recent dispatch from Mr. Smith, Secretary of the Agricultural Bureau of California, says:

"A summary of reports from all parts of the State, just received, shows that, in spite of all reports to the contrary, a full average crop of 30,000,000 bushels will be produced. All actual damage from drought is more than compensated for by the increase of nearly ten percent in the acreage. Four weeks ago, during the prevalence of the drought, the highest estimate for the State crop was only about 24,000,000 bushels. Since that time the State has had a beautiful rain, and the change in the outlook of our crop is simply wonderful. The product of the State in 1881 was 31,000,000 bushels; in 1882, 34,000,000 bushels."

Seeding has commenced at last in the spring wheat districts of Northern Minnesota, but parts of that State and Dakota are yet experiencing very cold and unseasonable weather. The season is from two to three weeks later than last.

The following table shows the prices ruling at Liverpool on Saturday last, as compared with those of one week previous:

	April 14	April 21
Flour, extra State	88. 0 d.	138. 0 d.
Wheat, No. 1 white	88. 0 d.	88. 11 d.
do No. 2 white	88. 0 d.	88. 0 d.
do No. 3 white	88. 0 d.	88. 0 d.
do No. 4 white	88. 0 d.	88. 0 d.
do No. 5 white	88. 0 d.	88. 0 d.
do No. 6 white	88. 0 d.	88. 0 d.
do No. 7 white	88. 0 d.	88. 0 d.
do No. 8 white	88. 0 d.	88. 0 d.
do No. 9 white	88. 0 d.	88. 0 d.
do No. 10 white	88. 0 d.	88. 0 d.
do No. 11 white	88. 0 d.	88. 0 d.
do No. 12 white	88. 0 d.	88. 0 d.
do No. 13 white	88. 0 d.	88. 0 d.
do No. 14 white	88. 0 d.	88. 0 d.
do No. 15 white	88. 0 d.	88. 0 d.
do No. 16 white	88. 0 d.	88. 0 d.
do No. 17 white	88. 0 d.	88. 0 d.
do No. 18 white	88. 0 d.	88. 0 d.
do No. 19 white	88. 0 d.	88. 0 d.
do No. 20 white	88. 0 d.	88. 0 d.
do No. 21 white	88. 0 d.	88. 0 d.
do No. 22 white	88. 0 d.	88. 0 d.
do No. 23 white	88. 0 d.	88. 0 d.
do No. 24 white	88. 0 d.	88. 0 d.
do No. 25 white	88. 0 d.	88. 0 d.
do No. 26 white	88. 0 d.	88. 0 d.
do No. 27 white	88. 0 d.	88. 0 d.
do No. 28 white	88. 0 d.	88. 0 d.
do No. 29 white	88. 0 d.	88. 0 d.
do No. 30 white	88. 0 d.	88. 0 d.

Adrian Press: A Blufffield farm had ten thousand pounds of wool in the hands of a Boston commission firm, which lately failed. The firm had sold the wool, and the Blufffield parties have the promise of 50 cents on a dollar in six months.

CORN AND OATS.

The receipts of corn in this market the past week amounted to 23,900 bu., and the shipments were 55,454. The visible supply in the country on April 14 amounted to 18,129,926 bu. against 8,126,835 bu. at the same date last year. The export clearances for Europe the past eight weeks were 13,857,719 bu. against 8,782,719 bu. for the corresponding eight weeks in 1882. The visible supply shows a decrease during the week of 93,074 bu. The stocks now held in this city amount to 92,153 bu., against 113,239 bu. last week, and 27,086 at the corresponding date in 1882. Stocks are lighter in all the markets of the country, and as receipts are decreasing also, there is a stronger feeling noted, with a sharp advance in prices. No. 2 corn is now quoted here at 53c per bu., and sales of rejected and damaged at 50c, and white corn at 57c. In Chicago the market is quoted firm, active and higher, with No. 2 at 54 1/2c per bu., high mixed at 55 1/2c, and rejected at 49c. In futures No. 2 is quoted at 54 1/2c for April delivery, 53 1/2c for May, 57 1/2c for June, and 59 1/2c for July. The demand from abroad is unusually heavy at present, footing up the past eight weeks nearly four times as much as for the corresponding eight weeks in 1882. If this ratio is kept up for the next six weeks, it will be certain to result in higher prices for corn. The Liverpool market is quoted steady at 6s. per cwt for old mixed, and 5s. 8d. for new mixed, an advance of 2d. on new and 2d. on old mixed during the week. It is thought that a still further advance is indicated by the position of the market.

The receipts of oats in this market the past week were 14,430 bu. and the shipments were 1,594 bu. The visible supply of this grain on April 14 was 3,873,804 bu., against 1,775,352 bu. at the corresponding date in 1882. Stocks in this city on Saturday amounted to 21,454 bu., against 20,763 bu. the previous week, and 13,968 bu. at the same date last year. Receipts light and the market is firm but quiet at advanced figures. No. 2 oats are worth 44 1/2c per bu., and No. 2 white 44 1/2c. The Chicago market is also quoted a shade higher, at 41 1/2c per bu. for No. 2 mixed, with a quiet tone to the trade. In futures April delivery is quoted at 41 1/2c, 42 1/2c for May, 42 1/2c for June, and 42 1/2c for July. The New York market is quoted dull but at an advance of 1 1/2c per bu. Quotations there are as follows: No. 3 white, 57c; No. 2 white, 55 1/2c; No. 1 white, 57c; Western white, 53 1/2c; No. 1 white, 56 1/2c; No. 2 mixed, 51 1/2c; No. 1 mixed, 52c; Western mixed, 50 1/2c; No. 2 Chicago, 53 1/2c per bu.

HOPS AND BARLEY.

Hops are unchanged, and without any features of interest. Buyers in the New York market are only taking small amounts, with the expectation of a break in the market. Holders are unwilling to make any concessions, and talk confidently of the future. Reports from abroad indicate a gradual improvement in the English market. Americans having advanced about 21 (35) per cent. In New York quotations are as follows:

	No. 1	No. 2	No. 3	No. 4	No. 5
Apr. 23	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 22	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 21	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 20	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 19	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 18	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 17	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 16	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 15	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 14	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 13	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 12	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 11	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 10	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 9	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 8	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 7	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 6	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 5	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 4	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 3	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 2	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2
Apr. 1	1.07 1/2	1.05 1/2	1.03 1/2	1.01 1/2	1.00 1/2

Barley received here the past week to the amount of 3,039 bu., and the shipments were 6,131 bu. The visible supply of this grain in the United States and Canada on April 14, was 1,192,149 bu. against 1,098,330 bu. the previous week, and 700,077 bu. the corresponding date in 1882. This shows an increase in the visible supply during the week of 93,919 bu. The stocks held in this city on Saturday last amounted to 6,056 bu., against 7,714 bu. the previous week, and 2,350 at the corresponding date in 1882. There is nothing doing in barley in this market, not a single transaction being reported on Saturday. Quotations are still nominally unchanged, with range of \$1.25 to 50 per cent on the offerings; but \$1 60 to 70 per cent could be realized on bright full weight samples. The Chicago market is quoted dull but a shade higher at 76 1/2c per bu. for No. 2 western, and 54 1/2c for No. 3 do. There is no speculative movement whatever in any of the markets.

SEEDS AND POTATOES.

Clover seed has again advanced, and on Saturday it was impossible to obtain supplies, although \$8 50 was offered for prime. Holders are now asking \$9, the light stock giving them a decided advantage over buyers. In Chicago there is also a strong market at advanced prices, choice being quoted at \$8 75 per bu., and good at \$8, with the supply limited. As the season is about over prices have probably reached their highest point. Last fall the market opened at \$4 75 per bu. for prime seed, and has steadily but slowly advanced until the price has nearly doubled. There has been but little attempt on the part of dealers to control prices, and present high rates are the legitimate outcome of a short crop, supplemented by an active export demand.

Potatoes are quiet and the market rather neglected. The receipts are light, but seem ample for present wants. For carloads 60c per bu. is about the best price that can be realized, and requirements are light even at those figures. New Bermuda potatoes are selling at about \$3 50 per bbl., which helps depress the market. In Chicago prices have declined to 50 1/2c per bu. for carloads on track, with a dull market. That market is well supplied with new Bermudas at \$6 50 to 7 00 per bbl., and sweet potatoes at \$3 25 per bbl. The outlook is not at all promising for any advance in prices this season.

Mr. SAMUEL JEWETT, of Independence, Mo., recently held a public shearing. Twenty-eight head were sheared, and gave an average of a little over 17 lbs. per head, the heaviest ewe fleece being 20 1/2 lbs., and the heaviest ram's fleece 31 1/2 lbs. He reports 126 old ewes shearing a fraction over 15 lbs. per head—a remarkable showing, are therefore valuable.

DAIRY PRODUCTS.

Receipts are small, and there is a somewhat better feeling in the trade, especially for stock of fair to good quality, to which the inquiry is entirely confined. Quotations still range from 18c to 19c for the best of the receipts, with 20c sometimes paid where quality and flavor are all right. Good butter is retailing from groceries at 22 1/2c to 23c, and many farmers realize those prices by selling direct to consumers. There is yet considerable old stock held here which no one seems to want. In Chicago the market is weak and slightly lower, with a considerable accumulation of stock. It is this that has weakened the market, and until it has been got rid of in some way good stock will suffer in price. Quotations there are as follows: Fancy creamery, 26 1/2c; fair to choice do, 25 1/2c; choice dairy, 18 1/2c; fair to good do, 15 1/2c; common grades, 12 1/2c. The New York market is also reported to be weak, but so far prices show no change. The New York Bulletin says of the market:

"The situation on butter remains much the same as at the commencement of the week. Really first class table stock has been scarce and remained firm, with possibly an advance secured where buyers insisted upon and were allowed to make selections, and the low grades are also well held on a very good baker's demand and some attention from shippers. All intermediate grades, however, were slow and unsettled, with no gain shown for the seller. Exporters have not made many new purchases this week."

In that market quotations on New State stock are as follows: Fancy creamery, 21c; choice do, 20 1/2c; fair to good do, 19 1/2c; ordinary do, 17 1/2c; fancy tubs and pails, 25c; choice do, 22 1/2c; good do, 19 1/2c; and fair do, 16 1/2c. New Western butter is dull and lower, and is now quoted as follows:

	18	20
Western imitation creamery	16	17
do do do do do do do do	16	17
Western dairy, ordinary to fair	13	15
do do do do do do do do	13	15
Western factory, choice current makes	14	15
Pacific coast, crop of 1882, fair to choice	14	15
Western factory, ordinary	10	12

Our local cheese market is very quiet, the movement of stock being light. So far, however, values have been well maintained and still range from 16 1/2c to 17c for best makes of full cream State, according to quality. In Chicago there is a quiet market with values somewhat unsettled, although quotations remain the same as one week ago, namely: Full cream cheddars, 14 1/2c; full cream flats 15c to 15 1/2c; flats slightly skimmed, 10 1/2c; common to fair skims, 8 1/2c; low grades, 3 1/2c to 4c. In New York there is a fair demand existing for most grades at about former range of prices, but the market shows neither strength nor buoyancy. Quotations there are as follows: Fancy full, State factory, 14 1/2c; choice, 14 1/2c; good, 13 1/2c; medium do, 10 1/2c; choice Ohio flats, 13 1/2c; fine do, 12 1/2c; fair to good do, 12 1/2c. The Commercial Bulletin says of the market:

"Old colored factory stock, when it can be found, will command former outside rates, but there is such a small quantity left that the season may be considered virtually over. Old white secures some attention, but the demand is not of an anxious character, and the tone, if anything, is a shade easier. Indeed, 14c would be difficult to make, and holders are offering to accept a trifle less, if it under stood, on many lots. On new cheese the market is not as yet fully formed, but commences to work into shape, and, with the larger amounts expected next week, we shall probably have some sort of a market. The western combination lots have been sold on strictly private terms, but it seems to be considered the top that could be made on any other full cream lots; we hear of sales of Northern county lots at 13c, and the night skims, etc., from Little Falls average at 14 1/2c for a general range, with 13 1/2c in few cases. Creamery skims are plenty and dull, with prices declining. About 9c might be made."

The Liverpool market on Saturday was quoted steady at 70s. per cwt., which is a decline of 1s. per cwt. during the past week; new American has arrived in that market, and is quoted steady at 69s. 6d. per cwt.

LATEST FROM DAKOTA.

Under date of April 23d, a dispatch from St. Paul, Minnesota, gives latest advice in regard to crop prospects in Dakota. They are to the effect that the continual cold weather is very disheartening to farmers, and the people in that latitude who have been tempted into the belief that spring is at hand by the evidences of green grass are disappointed at the situation in Dakota. A visit to that region during the last week shows that little or nothing is yet being done in the way of seeding; that there is no present prospect that work can be satisfactorily inaugurated within the next week, and that very much of the ground is as yet unplowed. This fact, taken with the lateness of the spring, is likely to result in large tracts of land being left untended during the coming season. Material additions were made to the tillage acreage last year in the shape of new breaking, but the failure to cultivate threatens to result in no actual increase. The farmers are not encouraged by the outlook in Dakota. After this statement the following from the Chicago Tribune of Monday may be received with a great many grains of allowance:

The reports of damage from the severe cold prove to have been unfounded in nearly all cases. From Minnesota, Nebraska, Indiana, Illinois, Kansas, Michigan, Missouri, Iowa, and Dakota the reports are all favorable for a fair average crop, and in some cases for an increase over last year. There will be a slight falling off in the product of Minnesota. The falling off in that State, however, will be more than counterbalanced by the increased acreage in the newer wheat growing sections like Dakota, which will almost double its acreage and possibly double its yield."

The communication in another column, on the State Agricultural College was written by one of the largest farmers in the State, who has had ample opportunities for observing its workings as compared with others of its class, both in this country and abroad. He is deeply interested in progressive agriculture, which he rightly regards as the basis of national prosperity. His opinions of the College, its management and methods of instruction, are therefore valuable.

THE CHICAGO CATTLE SALES.

The past two weeks have been notable among the cattle breeders from the number and importance of the auction sales of improved cattle that have taken place. On April 11th, Messrs. Rigdon & Huston, of Blandinsville, Ill., sold at that place 45 head of Shorthorns—25 females and 20 males. The females made an average of \$121.20 per head, and the males \$169.25. On the day following Mr. Strawther Given sold 47 head at Abingdon, Ill. At this sale 36 females made an average of \$163.88, and 11 males \$135.90. On the 13th Mr. E. Hawkins, near Horman, Ill., sold 47 head; 34 females made an average of \$114.55, and 13 bulls \$138.45.

On Tuesday last, at Dexter Park, Mr. A. Y. Attrill of Goderich, Ont., offered his entire herd, consisting of a Grand Duchess bull and 32 animals of the Princess tribe. The animals, though well bred, were entirely too fat for breeding stock, and the prices realized were far below what they should have brought. Twenty-five of the animals offered were females, and the prices paid for them made an average of \$355.40; eight bulls made an average of \$786.37. The Grand Duchess bull Grand Duke of Connaught and Ridgebrook, of Illinois for \$4,750. The next morning they repented of their bargain and refused to make good their bid. Their action caused a good deal of indignation, as the Winslow Bros. had bid up to \$4,500 for the animal.

The next day Mr. Richard Gibson, of London, Ont., sold 20 head—17 cows and 3 bulls. The cows made an average of \$1,108.52, and the bulls \$523.38. Among the animals sold was the Duchess heifer 1st Duchess of Hilldale, not two years old till June. She brought \$6,000. Strawther Given, of Abingdon, Ill., being the purchaser. A young Duchess bull, 1st Duke of Hilldale, brought \$3,500. An imported Barrington heifer also brought \$3,000. R. Huston &

Poetry.

TWO APRILS.

White as snow were the dog-wood blooms,
The heavens were sweetly blue;
And the air was laden with faint perfumes
From the myriad flowers that grew.

The south wind stirred in the meadow grass,
And rustled the leaf's brown wing;
And the creamy buds of the saxifrage
Awoke with the breath of spring.

The linnets broke with their joyous lay
The winter's lengthened hours;
The wild wrens sang with the voice of the jay
And the song of the speckled thrush.

Fair and bright was that April day
As I lay in the scented grass,
Waiting for one who would come that way,
For one whom I knew would pass.

Near me, there, with a musical flow,
The rivulet wandered down;
Over the pebbles that shone below,
Yellow and red and brown.

All over the banks the azure eyes
Of the violets glistened blue;
And thick as stars in the jeweled skies
The purple pansies grew.

On through the meadow and over the hill,
By the path that led that way;
On through the meadow and over the mill,
On that balmy April day.

Came she for whose coming I waited there
In the fragrant meadow grass—
Lay and waited that morning where
I knew she soon would pass.

Sweet as a bird's, as she wound along,
Were the bright little maiden's tones,
As, gaily singing a blithesome song,
She crossed on the stepping-stones.

Twirl like light, how dainty their tread!
Bright eyes glancing down;
Dark green sateen, and shawl of red,
Tresses of gold and brown.

Years have gathered the seed they cast,
And fled like a rood of dreams;
Yet that April day far back in the past,
How wondrously near it seems!

Again, as of old, now the south wind blows,
In the self-same spot I lie,
Where the pansy blooms, and the violet grows,
And the rivulet wanders.

Oh, bright, fresh flowers, do you bloom less fair,
Oh, winds, in your breath more chill;
For the sweet young eyes, and the brown gold hair
And the lips that were hushed and still?

A YOUNGER DAUGHTER.

She's neither a child nor a woman,
She's just old enough to be pert;
That man would be scorned as an infirm
Who called her a premature flirt;
For her soul is as pure as a lily,
Her heart is as warm as a rose,
And your eyes must be turned willy-nilly,
To follow her whither she goes.

This maiden has lovers in plenty—
Each hopes may call her his own—
Impassioned youths under twenty,
Ambitious, but crude and half-grown;
At their delicate, amatory passion,
She laughs in her frank, merry way,
And tells them, in half-crazed fashion,
That they are nothing but children at play.

To me, who am forty and sickened
With the thought of a plague in the air,
Come pulses that gladly are quickened
By a sense of relief from despair.
I have lived and have earned the world's wages,
But this maid takes me back to the time
When I was that god of all ages,
A pure-hearted boy in his prime.

Miscellaneous.

GODFREY DENYER'S PENANCE.

When young Godfrey Denyer repudiated his signature to a check for a large amount, drawn in favor of his friend Captain Wrake, he did not for a moment anticipate the serious consequences which ensued. His object was simply to gain time to arrange matters with the Captain, for the truth was that he had not the money to meet his draft. He was so extremely inexperienced and unbusiness-like that he did not imagine for an instant that his bankers had any cause for complaint in the matter. He thought they would simply return the check to Captain Wrake's agents, with an intimation that there was an informality in it. And he was so staggered and horrified by the amount of the check, that he eagerly adopted the suggestion of the clerk who waited upon him from the bank, that the signature was a forgery, by way of temporarily extricating himself from embarrassment. To an ordinary observer there certainly seemed something wrong about the signature, but Godfrey Denyer, bearing in mind the state he was in when he wrote the check, was not surprised that his handwriting should have been eccentric. The transaction took place at a supper party at Captain Wrake's rooms a few nights previous, on which occasion young Denyer dimly recollected having played recklessly at cards for high stakes, but as to what he had lost, and even how he had found his way home afterwards, his memory was a perfect blank.

Godfrey Denyer was a very foolish young man. He was, in fact, one of those vain, silly, weak-minded youths whose chief ambition is to lead the life of a fast man about town. Unfortunately, he had no near relatives to interfere with his tastes and pursuits, while a small fortune which he had inherited on attaining his majority enabled him for a brief period to indulge in every folly and extravagance. But he was not naturally either vicious or profligate, though he aspired to be taken to be so, and consequently the idea of having incurred a debt of honor which he was unable to pay filled him with dismay. When the bank clerk had left, taking the fatal check away, Godfrey Denyer at once set forth to seek Captain Wrake, feeling deeply distressed and humiliated, but by no means conscious of the heinousness of the lie he had told.

Captain Wrake was not to be found, either at his chambers or at his club, and after rushing about with feverish anxiety to various places in search of him, young Denyer returned to his own room tired and disheartened. A handsome cab was at the door, and as he entered he ran against a rather pompous elderly gentleman, who at once accosted him.

"Mr. Denyer, I believe?"

"Yes," replied Godfrey.

"I must ask you to be good enough to come with me at once," replied the gentleman, whose tone and manner were unpleasantly peremptory. "I am Mr. Grant-

ly, the solicitor for Messrs. X. & C., your bankers."

"What for? What do you want with me?" demanded Godfrey, uneasily, as Mr. Grantly led the way to the cab.

"Jump in. I will explain as we go along. I shan't detain you many minutes," said the solicitor, taking him by the arm.

Young Denyer entered the cab, and Mr. Grantly got in after him, having first given a brief direction to the driver. As they rattled over the stones the solicitor briefly explained that he was going to apply for a warrant against Captain Wrake in connection with the check, as the bank had determined to prosecute.

"Prosecute! What for?" exclaimed Godfrey Denyer, startled out of his senses.

"Forger. It was a most impudent attempt," said Mr. Grantly, curtly.

"But—Captain Wrake is a friend of mine," faltered young Denyer. "Everything can be explained."

"He will have an opportunity of explaining," said the solicitor in rather an ironical tone. "I am sorry to hear he is a friend of yours. I am afraid you have been keeping bad company, young man."

Godfrey Denyer was too agitated and confused to continue the conversation. He was not by any means clear as to the purpose of this visit to the police court. The ominous words "prosecute" and "forgery" were ringing in his ears, but he was too bewildered to realize their significance, and he felt less apprehensive on Captain Wrake's account than on his own.

He had a vague suspicion that he had somehow made himself amenable to the law in connection with this wretched check, and suspected that the errand on which they were bound had an unpleasant personal bearing.

His uneasy meditation lasted until they reached their destination, and in a dazed state of mind he obeyed Mr. Grantly's request that he would follow him. What passed at the police court happened so quickly that he hardly knew what he was doing. To add to his agitation and nervousness, Mr. Grantly's manner was very overbearing, and being a weak-minded lad he helplessly did what he was told, without reflecting. He was sworn, and again confronted with the signature to the check. For the life of him he could not summon up courage to retract or qualify his original statement, and as a monosyllable was all that was required by way of answer, he found it easier to say "No" to the question put to him than to enter into an explanation. It was not until he found himself alone again, disconsolately wandering his way back to his chambers, that he began to dawn upon him how fatally he had committed himself, and how grave a wrong he had done to Captain Wrake.

While his mind was wavering between right and wrong an incident happened which afforded him an excuse for adopting the less compromising alternative. In the afternoon he received a visit from a lady who announced that she was Captain Wrake's wife. She was young and pretty, but shabbily dressed, with a careworn look upon her pale face. Godfrey Denyer was the more startled at beholding her, because, like most of the Captain's friends, he was unaware that he was married.

He knew Captain Wrake as a man of pleasure, a gambler and profligate, and in the poor wife's pinched features and threadbare attire it was easy to read a tale of suffering and neglect. But she had come, nevertheless, to plead for her husband, who, it appeared, had already been arrested, and the sight of her distress and her pitiful allusion to her young family touched Godfrey Denyer's heart and aroused his better nature.

"What can I do for you?" he said, summoning up all his fortitude. "Shall I go at once to the police and acknowledge the signature?"

"My lawyer says that would be useless, as you have already denied it upon oath," sobbed the poor lady. "But if you would be merciful and not give evidence against my poor husband—"

"I will not, I will leave London at once," he interrupted, eagerly, with a strange feeling of relief.

"Heaven bless you!" cried his friend's wife, impulsively seizing his hand and kissing it.

But Godfrey Denyer hastily drew his hand away, for the spot she had kissed seemed like fire. A tingling sensation of shame and unworthiness took possession of him so that he fairly fled from the room. When Mrs. Wrake had left he lost no time in making preparations for his departure. Having packed up a portmanteau—leaving the bulk of his effects to the mercy of the landlady—he went trembling to the bank and drew out the balance which stood to his credit. The same night he reached Liverpool, and the next morning sailed for New York.

Godfrey Denyer remained in America more than five years, and owing to one of those singular chances which read like romance and which usually happen to unworthy persons, he was able to lay the foundation of a large fortune. An American fellow-passenger on the voyage out took a great fancy to him and offered him employment in his business. Godfrey Denyer at once entered upon a prosperous career and developed an unexpected capacity for his new duties. He not only gained the confidence of his employer but also his affectionate regard, so that he was afforded opportunities for advancement which rarely fall to the lot of a young man.

But he was no longer the vain foolish lad he used to be before he left England. A great change had come over him, which dated from the day when, shortly after his arrival in America, he learned that Captain Wrake had been found guilty of forgery and sentenced to a long term of penal servitude. Godfrey Denyer's absence had availed no more than the prisoner's eager protestations of innocence to avert adverse verdict, for independent persons had sworn to their belief that the signature to the check was not in the handwriting of the supposed drawer. The news gave Godfrey a severe and painful attack and had a sobering effect upon his character. He conceived it to be his duty at least to provide for the necessities of the poor woman and innocent children whom he had rendered miserable. He had not the courage to return to England and

clear Captain Wrake's reputation, but short of that he resolved to make every atonement in his power. With this object he devoted himself assiduously to business, and regularly remitted the larger portion of his earnings to a trustworthy agent who applied the money for Mrs. Wrake's benefit. The poor lady frequently blessed her unknown benefactor, but Godfrey Denyer never dared to disclose his identity least the wife of the man he so cruelly wronged should spurn his gifts and thus deprive him of the small consolation he derived from helping her.

At length he was informed that Captain Wrake would shortly be set at liberty, and he then resolved to carry into execution a plan which had been slowly forming in his mind for years past. In spite of the pecuniary sacrifices he had made he felt that he had by no means atoned for his sin. It was not a question of money, for he was prepared to continue his benefactions and to provide Captain Wrake with funds to make a fresh start in life if he would accept any favor of him. But his chief purpose was to return to England and to place himself unreservedly in Captain Wrake's hands. If the Captain would accept no apology or compensation, and insisted on his public acknowledgment his baseness, Godfrey Denyer was determined to do so, regardless of the consequences.

This resolution had cost him a severe struggle with his moral cowardice, but at length he succeeded in summoning up the necessary fortitude for his self-imposed penance. If he secretly hoped that Captain Wrake would be satisfied with some smaller sacrifice, he was nevertheless perfectly sincere in his purpose. He returned to England, looking prematurely aged, with streaks of gray in his hair, though he was barely thirty. But his bearing was calm and resolute, and a shrewd observer would have guessed at once that he had suffered some great trouble which had darkened his young life.

On the day when Captain Wrake was released from prison Godfrey Denyer sent to him a request that he would grant him an interview at an inn near at the gates of the jail. He felt deeply agitated at the prospect of finding himself face to face with the man who must have been cursing him bitterly for years, and who would now be the arbiter of his fate; but his firmness did not desert him, and when Captain Wrake appeared his purpose never wavered.

To his amazement the Captain hung his head and accepted his outstretched hand without hesitation, but in a very humble manner. Godfrey could scarcely believe his senses, and doubted at first whether it was really his former friend who stood before him. It was indeed he, however, though he too had aged and was much changed in appearance. For a moment neither spoke, and then suddenly the Captain burst into tears and said in a choked voice:

"Denyer, don't say a word. I can't bear it. I—I guess now who has been the savior of my poor wife and children. What am I to say to your noble conduct? You first stand my friend by not appearing against me at the trial, so as to give a poor devil a chance, and then—then you act as guardian angel to those I have so cruelly wronged. And you of all others are the person from whom I have the least right to expect kindness."

"Why?" demanded Denyer, hoarsely, with a wild throbbing at his heart.

"Why? How can you ask? You know my offence," said the Captain, averting his face.

"Do you mean—do you mean that you were really guilty?" cried Denyer, with a blessed sense of a load being suddenly lifted from his mind.

"God forgive me, yes! I was desperate, your helplessness tempted me, and—and—" the Captain paused and hung his head again, while Godfrey Denyer involuntarily gave a long-drawn sigh of relief.

How Bismarck Saved a Soldier.

A good-Bismarck anecdote, showing the Prince to have been a good comrade from his youth up, is the following: "In 1838 he entered the Potsdam battalion of 'Garde Jaegers' as a one-year volunteer, and six months later, at his request, he was transferred to the 'second Jaegers' at Greifswald, in order to be able to profit by the lectures in the Agricultural School of Eldena. One of his comrades in the battalion was a young man, who, at the present day, still counts among the great landed proprietors of the Province of Pomerania. He then stood in the second rank immediately behind Bismarck.

In spite of stringent orders to the contrary, the Jaegers persisted in frequently firing shot at the numerous storks on the meadows near Greifswald, while on march, drilling, or exercising. One day on the march home to the barracks, Bismarck's file-closer brought down a bird with a bullet. The officers, although marching a good way ahead, heard the report, saw the stork fall down, ordered the battalion to halt, and forthwith began to examine the guns. Everything was as it should be in the first rank. The culprit in the second rank began to tremble: all the more for his safety, inasmuch as his promotion to a lieutenancy was at stake in case he should be found out. This Bismarck realized, and while his friend was on the point of voluntarily denouncing himself, in order to clear the rest of the men from an unjust suspicion, he whispered to him: 'Look sharp, take your gun in the left arm. I'll throw you mine.' No sooner said than done; so quickly, in fact, that the inspecting officer did not notice it, and the case of the killed stork remained an unexplained mystery. Over a mug of beer that night, Private Bismarck declined to receive the thanks of his comrade for a service 'which was not worth talking about.' To this day the two are pleasant neighbors and sworn friends."

*The woman who seeks relief from pain by the free use of alcoholic stimulants and narcotic drugs, finds what she seeks only so far as sensibility is destroyed or temporarily suspended. No cure was ever wrought by such means, and the longer they are employed the more hopeless the case becomes. Leave chloral, morphine and belladonna alone and use Mrs. Pinkham's Vegetable Compound.

THE DAUGHTER OF BROTHER BENJAMIN.

"Oh!" said Miss Naomi Borax, sourly. "So you're Brother Benjamin's daughter, are you?"

The time was five o'clock, of a dreary afternoon, the hills frosted over with a light fall of snow, like so many Twelfth Night cakes, the sky dappled with gray clouds, and a sharp wind howling among the cedars and tamaracs of the lonely spot. The place was a comfortable-looking red brick house at the "Cross Roads," with a pleasant reflection of firelight behind its curtains, and the smell of fried potatoes and ham issuing forth, after a most genial fashion. The dramatic personage was Miss Naomi Borax, a middle-aged lady of a sharp and acrid appearance, who stood on the doorstep, blocking up the portals, and Aveline, her niece, a fair, drooping maiden of sixteen, with soft hazel brown eyes, and a color softer than any balsam.

"Yes," Aveline answered, glancing timidly up, "I am to come here. For a month."

Miss Naomi Borax's countenance grew tarter than ever.

"It's the first I've heard of it," said she, without evincing any particular degree of pleasure.

"Didn't you get my cousin Clarissa's letter?" said Aveline, with a startled look.

"I've got no letter," said Miss Borax. "Nor no telegram. Nor no nothing else!"

"I am to come to you," reiterated Aveline, "for a month. Please let me go into the house, Aunt Naomi. I am so cold and tired. I have walked all the way from the railroad station! O, Aunt Naomi, are you not glad to see me?"

Grudgingly enough, Miss Borax made way for the slight, shivering figure to pass.

"Benjamin's daughter, indeed," she muttered under her breath. "That's the way! The minute the relations get tired of her they pack her off upon me. But they needn't suppose I'm going to put up with it."

And she added, aloud, "Why, to tell the truth, Aveline, it ain't exactly convenient for me to have company just now. I've got six boarders—the minister, the school teacher and four factory girls. And—"

"Oh, but I could help you with the housework, Aunt Naomi," said Aveline, lifting her pleading eyes to the spinster's hard face. "And I don't care where I sleep."

"I can't afford to keep no help," said Naomi, to whom thrift was the end and aim of existence. "And perhaps, Niece Aveline, it's just as well that we should come to an understanding at once. Set down by the fire. How old are you?"

"Past sixteen, Aunt Naomi," said Aveline, secretly wondering what was coming next.

"Then," said Miss Borax, "you're quite old enough to earn your own living. And you must do it, if you come here."

"Oh, Aunt Naomi, don't speak so crossly to me!" said poor Aveline, her hazel brown eyes filling with tears. "Cousin Clarissa was always kind."

"I dare say," said Naomi. "A limp, easy-going creature, as was always behind-hand with her butcher and baker. I don't manage after that fashion myself. And Clarissa owes me a coffee-cupful of meal and two smoked mackerel to this day, as she borrowed of me six years ago, when we lived neighbors on Blue Mountain Road. Some folks forget easy. I don't. And as to speakin' crossly, facts is facts! Brother Benjamin never took no thought for the future. He was one your happy-go-lucky people too. And here is his daughter depending on charity!"

Aveline, meek though she was, could scarcely endure this heartless taunt.

"Aunt Naomi," she cried, "you must not say such cruel things!"

"Hoity-toity!" said Miss Borax. "If you speak so loud you'll have all my boarders down to see what the matter is. What I mean to say is that I can't support other people's children. It's all I can do to take care of myself. But I'll pray the minister knows of some place you can get. Or may be Mr. Archdale, the schoolmaster, can recommend you to a position. He's as poor as Job's cat himself, but he knows a lot of nice people up in the State of Massachusetts. And maybe the factory girls can put you up to a place at sewing buttons on cards or some such business. We've all got to work in this world. Now you can set and warm yourself until supper is ready."

Supper was a scant affair enough. A Johnny cake, a little dry toast, some blueberry jam, and a cup of weak and sage-flavored tea, was all that Miss Borax set before her boarders. The minister was a tall, lank young man with yellow hair and a close-shaven face, who took refuge in an almost unbroken silence; the school-teacher was a pleasant, modest-looking man, who did his best to make poor Aveline feel at home, and the four factory girls stared, giggled, and whispered by turns. Miss Naomi grimly poured the tea, and looked surprised when any one wanted a second helping of blueberry jam, while a starved cat went around picking up the crumbs under the table. And Aveline cried herself asleep in the little garret bedroom where, as her Aunt Naomi kindly informed her, Grandfather Borax had died at the age of eighty years!

"On that very bed," said Miss Naomi. "Good night, Brother Ben's daughter. I hope you'll sleep well."

Poor Aveline!

The next day the question of work came up. The four factory girls declared that they were already over-crowded with hands at the works. The clergyman knew nothing at all. (Aveline Borax, who was not without her share of humor, began to believe that that was his normal state.) Mr. Archdale declared, kindly, that he would make inquiries. And in the meantime Miss Naomi brought down a ponderous roll of old clothes for her niece to cut into narrow strips, which strips were thereafter sewed and wound into endless balls, which seemed to grow, under Aveline's fingers, like nightmares!

"I'm calculating to have a new rag carpet!" said she. "And I can't feed and keep you, unless you do something to

earn your board! It's a great oversight that your folks haven't had you taught a decent trade. Would you like to be bound out to a tailorress?"

"A tailorress!" Aveline blushed vividly. "Oh, Aunt Naomi, no!"

"Now, Aveline, don't be a fool," said Miss Naomi. "I ain't going to support you in idleness. Why, a great girl like you will eat and drink fifty cents' worth a day. And I don't keep free tavern for all my pauper relations, that I'd have you to understand."

Which remark so stung Aveline that she took counsel of Mr. Archdale, the very evening, while he was correcting his boys' Latin exercises at the desk in a corner of the sitting-room.

"Isn't there anything I can do?" said she. "I didn't know I was so poor. But Aunt Naomi tells me that I am a pauper!"

"Don't be discouraged," said the young man, kindly. "If the worst comes to the worst, Miss Borax can't turn you out of doors."

"But it is so dreadful to be told of one's own poverty and desolation," pleaded Aveline.

"I will write to my cousin in Boston," said Archdale. "They are sure to know of some good situation for you."

"I would be a housemaid," said eager Aveline, "sooner than to endure Aunt Naomi's taunts."

"Look here, Archdale," said the clergyman, when Aveline had gone up to the room where Grandfather Borax died, "take care."

"Of what?" said Archdale in amazement.

"That girl has intentions on you!" "Nonsense!" exclaimed the teacher.

"She has, though," said Mr. Hymnall, "evidently enough! Don't allow yourself to be ensnared."

"Upon my word, Hymnall," said Mr. Archdale, scarcely knowing whether to laugh or be vexed. "I think you are crazy!"

"I only warn you in time," said Mr. Hymnall, dryly.

But at the end of a month, Aveline was more reconciled to her lot.

"It won't be for long," she said cheerfully.

"I told you how it would be," said Mr. Hymnall to his friend. "Here you've been and thrown yourself away on a penniless girl like that, when Squire Fallmouth's daughters are returning here from Europe."

"You look at matters altogether in a wrong light," said Archdale. "Say rather here I have been lucky enough to secure for my wife the sweetest girl in all the world, who would be fully worthy to wear a ducal coronet."

"You'll be poorer than poverty," said the clergyman, with a sigh.

"Well, we shall not be rich," admitted Mr. Archdale. "But we don't want to be Rothschilds. And, at all events, we shall be happy. Won't that be enough?"

Mr. Hymnall shrugged his shoulders. He had preached a sermon on "The Vanity of Riches," only the Sunday before. But his private opinion was quite a different thing.

Only the next day, however, Cousin Clarissa Borax made her appearance in a great flurry.

"Well, I declare," said she. "Things do happen strangely! Here's the very letter, Cousin Naomi, that I thought I had mailed to you the day before I sent Cousin Benjamin's daughter out here, and where should it be but in the bottom of my shopping reticule all this time, with a receipt for cup-cake, Dr. Weasand's cough prescription, and a paper of bismuth-and-soda! And you never heard it, after all!"

"Never heard what?" said Naomi Borax.

"That Aveline was a heiress!" said Cousin Clarissa, "That Brother Ben's money in that Western Railway has quintupled itself—that the land he bought along the line is selling at a hundred dollars a lot! And the doctor said she was looking delicate, and I must send her into the country for a change. So I sent her here. And I fully s'posed you'd got my letter, and I couldn't hardly believe in my own senses, when I got your scoldin', writ on four pages of foolscap, all about beggars and paupers, and that sort of thing!"

"Does she know?" said Miss Naomi.

"About her fortune? No!" said Cousin Clarissa, "not yet! She ain't to know it—by the terms of Cousin Benjamin's will—until she is married to some young man who took her for herself alone!"

"Then she'll know it pretty soon," said Miss Naomi. "For she and the school teacher—Adam Archdale his name is—have been engaged for three days."

The domestic atmosphere of the Borax household changed with a rapidity which no Signal Service officer would be able to explain. Miss Naomi declared that she had begun to love Aveline as her own child. The clergyman thawed out like an icicle in the April sunshine—the four factory girls proffered to her little gifts of Seaside novels, chewing gum, chocolate caramels, and needle-books. And no sunflower in full blossom ever beamed as did good Cousin Clarissa.

Of course Aveline found out the whole mystery before she was married! How could she help it?

"And I love you, oh, so much, darling," she said to Adam Archdale, "because you believed you were engaging yourself to a poor girl!"

"I believed then—and I believe now," Mr. Archdale promptly replied, "that I was engaging myself to an angel!"

Which, although illogical, was lover-like.

JEFFERSONVILLE, Ill., April 25, 1883.

DEAR SIR—I am more than pleased with the effect of your Zon-Phos on our daughter's case. I am surprised to see how she has improved. She is gaining in weight and color, and I think feels better than she ever did; her nerves are steady, and the distress she suffered in her chest is entirely gone. I firmly believe that Zon-Phos is all that has saved her life.

I am willing you should use my letter, for I am not afraid to tell what a wonderful cure your medicine is, and I would like all who suffer to try it.

Yours respectfully,
MRS. SARAH RANDOLPH.

I shall always remember gratefully the good health your medicine has brought my daughter.

LEWIS RANDOLPH.

NB.—This was a case of suppression.

Irish Peasantry.

There are about 1,500 families, on a rough calculation, depending on the daily earnings of agricultural labor in one small county. Where a laborer is engaged in constant work on a farm, I believe 7s. per week is above rather than below the average of his pay. Six shillings a week for half the year, and 5s. for the other half is generally the rate of wages. When men are not kept in regular and constant work, the average pay would be 9s. a week for about nine months out of 12, and it commonly happens that they are unable to get work during the other three months. Out of this sum the laborer has, of course, to keep himself and his family. He often has to pay from 30s. to £2 a year for his little cabin, and perhaps a miserable patch of ground around it, on which he painfully toils when he is lucky enough to have it—to grow potatoes. In many cases a man pays as much as £4 a year for his cabin. In a considerable number of instances the laborer who is not in constant employment engages to give a day's work in each week as the rent of his house. This arrangement sometimes acts harshly against him. The farmer who has let him his hut does not, perhaps, want his labor during a considerable portion of the year, and does want it at spring time and at harvest, when wages are at their highest. The laborer has to turn out then and give his work without reference to the increased rate of wages, and thus has virtually to pay a genuine rack-rent for his miserable homestead. It is a small, lop-sided wigwam, built of stone and mud, with a thatched roof, and with three holes left in the front wall for door and windows. The traveler who stops to look into one of these huts seems at first to see nothing but darkness visible. When his eyes get used to the lack of light he sees a hovel almost absolutely devoid of furniture, and very often consisting of only one room for the family, however numerous, to live in. The mud villages in which the fellahs of Egypt live contain fewer hovels so hopelessly grim and comfortless as those that may be seen in many parts of Ireland, and the Egyptian peasant has a climate around him which allows him, if he chooses, to pass his whole life in the open air, while in Ireland the rain comes down often for days and days together without stint. Into that castle of the Irish peasant truly the wind may enter and the rain may enter. On wet nights the drenching showers soak through the ill-thatched roof and come dripping down on the beds of the sleepers. I used the word "bed" in order to convey the idea of a place where the inmates sleep rather than that of any article of furniture constructed for the purpose of being slept on. In many cases the bed and bedding consist only of straw and some old sacks that once had Indian meal or guano. A cabin with a second room in it is a somewhat exceptional possession with the Irish laborer of the poorest classes. The food of the laborer consists principally of potatoes, or else of Indian meal mixed with flour and soda. Tea of the thinnest and poorest kind, often without milk with it, is the enjoyment of the laborer and his family. It is the drink they would have at all times if they could only get it. I suppose there still are persons in this country who think of the Irish agricultural laborer as a man going about perpetually with a bottle of whiskey in his hand and ready at every opportunity to lift the mouth of the bottle to his lips. I wonder whether such persons have ever considered what the price of a bottle of whiskey—even of the rawest, vilest whiskey—would be, and how many such bottles the Irish peasant could treat himself to in the course of the year out of the surplus of his wages? The truth is, that the laborer of this class

on your fellow-men that was ever common to mankind.

